

**MITIGATING FRAUD IN SOUTH AFRICAN MEDICAL SCHEMES**

by

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## DECLARATION

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I declare that the dissertation entitled MITIGATING FRAUD IN SOUTH AFRICAN MEDICAL SCHEMES is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

  
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25 October 2017  
DATE

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## **ABSTRACT**

The medical scheme industry in South Africa is competitive in relation to international standards. The medical scheme sector, as part of the healthcare industry, is negatively affected by the high rate of fraud perpetrated by providers, members and syndicates, which results in medical schemes funding fraudulent claims. The purpose of the study was to explore strategies to mitigate fraud in medical scheme claims. A qualitative research methodology was followed in this study, which adopted a case study approach. Empirical data was analysed through thematic analysis, with the aid of ATLAS.ti software. The study found that healthcare service providers mainly defraud medical schemes by submitting false claims. A holistic approach should be followed to mitigate fraud in medical scheme claims. This approach should encompass regularly identifying trends in fraudulent claims and implementing appropriate control strategies. Collaboration within the medical scheme industry and with other stakeholders would also help to elevate the fight against medical scheme fraud to a new level. Implementing the recommendations from the study will assist medical schemes to reduce the funds expended on fraudulent claims, thereby improving their financial viability and decreasing the rate of increase in medical scheme contributions for members.

**KEY TERMS:** South Africa, healthcare, medical schemes, fraud, healthcare fraud, operational risk, qualitative, case study, thematic analysis, ATLAS.ti, risk mitigation.

## **LIST OF ABBREVIATIONS**

CMS	Council for Medical Schemes
COSO	Committee of Sponsoring Organizations of the Treadway Commission
FSB	Financial Services Board
GDP	Gross Domestic Product
GP	General Practitioner
HPCSA	Health Professions Council of South Africa
ID	Identity Document
SAPS	South African Police Service
WHO	World Health Organisation

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## **CHAPTER 1: INTRODUCTION TO THE STUDY**

### **1.1 Introduction**

The purpose of this study was to explore strategies to mitigate fraud in South African medical scheme claims. As posited in various literature sources, fraud risk in claims is high in South African medical schemes. Fraud in healthcare is regarded as a worldwide problem, and South Africa is not immune to this risk (Ogunbanjo & van Bogaert, 2014; Board of Healthcare Funders of Southern Africa, 2013). The perpetration of fraud against medical schemes was highlighted in the annual report of the Registrar in 1992 as one of the factors contributing to rising costs (Rama & McLeod, 2001). In support of this, Erasmus, Ranchod, Abraham, Carvounes and Dreyer (2016) identified fraud as one of the causes of escalating healthcare costs.

Duckert (2011:196) describes the healthcare industry as “the only market place in the world where the primary consumer of the services desires the highest quality healthcare, does not know what to consume, when to consume it, how much to consume, why it is necessary to consume it, how much it should cost, and does not pay for it directly in most circumstances”. Morris (2009) also indicates that drug dealers are shifting their operations from drug dealing to healthcare fraud, as the risk of detection when committing healthcare fraud is minimal. Due to the nature of the healthcare industry, the inherent risk of fraud in these claims is regarded as very high, with an average of 6.9% of total healthcare expenditure estimated to be lost to fraud (Duckert, 2011; Gee & Button, 2014).

Given the assertions made in various studies that fraud is a risk in healthcare claims, South African medical schemes, as part of the healthcare system, would also face a similar challenge. However, there is limited scholarly literature pertaining to this risk in the South African context. This motivated the researcher to conduct this study, which aimed at identifying fraud risk management strategies that could assist South African medical schemes to reduce the amount of funds expended on fraudulent claims.

A qualitative, exploratory methodology was used in this study, which adopted a case study design, where primary data was collected through interviews from a purposively selected sample, in order to derive rich insights from the study participants. Moreover, the data analysis methods were described in detail, after which the results of the study were presented. Lastly, the conclusion and recommendations of the study were discussed.

This chapter starts with a background to the topic of the study, namely mitigating fraud in the healthcare sector. Thereafter, the problem statement is defined, and the research questions and objectives of the study are outlined. The methodology used in this study is then briefly discussed, and the chapter concludes by outlining the structure of the study.

## **1.2 Background to the study**

The South African Police Service (SAPS) reported that South Africa is one of the countries experiencing an increase in crime levels (SAPS, 2016). Dabney (2013) defines crime as action or inaction by the perpetrator, in contradiction to the country's laws, which warrants punishment. The types of crimes enlisted by Dabney (2013:12) include homicide or assault, sexual assault, robbery, common property crime, public order crime, and crime within complex organisation. Fraud is defined as "the unlawful, intentional distortion of the truth which is calculated to prejudice another" (SAPS, 2016:115).

The SAPS classifies fraud under commercial crimes, which have seen an increase of 3.1% from 2015 to 2016. These crimes mainly encompass evading tax, defrauding banks and stealing trademarks (SAPS, 2016). Healthcare is vulnerable to fraud due to the manner in which it is structured, because unlike other industries, the cost of services or goods is sometimes paid by the third party in the form of government programmes or private health insurance (Benson & Simpson, 2015). In the healthcare context, fraud has been defined as "a type of white-collar crime involving the filing of dishonest healthcare claims in order to achieve a profit" (Ogunbanjo & van Bogaert, 2014:10). Fraud in healthcare occurs mainly in the form of the submission of false claims,

duplicate billing, billing for extra codes, up-coding, unbundling of codes, billing for excessive or unnecessary services, and kickbacks (Thornton, Mueller, Schoutsen & Van Hillegersberg, 2013). The World Health Organisation (WHO) regarded fraud as one of the critical reasons for healthcare inefficiencies (World Health Organisation, 2010). Gee and Button (2014) and Ogunbanjo and van Bogaert (2014) concurred with WHO and alluded to the fact that globally, healthcare fraud remains a significant problem. After realising that healthcare fraud is a profitable alternative, where the chances of detection are minimal, drug dealers have now shifted from dealing in narcotics to healthcare fraud (Morris, 2009; Benson & Simpson, 2015).

Globally, fraud and abuse losses are estimated at 10% of the total healthcare expenditure (Nsiah-Boateng, Asenso-Boadi, Dsane-Selby, Andoh-Adjei, Otoo, Akweongo & Aikins, 2017). The loss of these funds intended for the provision of healthcare could be substantial, as healthcare is usually allocated a large budget. In turn, the huge amount of money spent on healthcare attracts fraudsters to the industry (Bauder, Khoshgoftaar & Seliya, 2017). The fraud losses in healthcare translate into billions of dollars in the United States (Engstrom, 2017).

In the South African context, ethical transgressions sanctioned against healthcare professionals by the Health Professions Council of South Africa (HPCSA) were predominantly for fraud cases, which constituted 51.7% of all transgressions (Norjé & Hoffmann, 2016). Nevondwe and Odeku (2014) regarded fraud as a high risk in both the public and private sectors of South Africa. Ogunbanjo and van Bogaert (2014) suggested that fraud in South African medical schemes is escalating. Although healthcare fraud in South African private healthcare has not been measured, it is estimated that R13 billion is lost to fraud (Bateman, 2015). Losses resulting from fraudulent claims will negatively affect medical schemes' ability to meet the obligation to pay out beneficiaries' claims for health services rendered. This will also result in low solvency levels, which will affect the financial viability of medical schemes, thereby resulting in them being unable to reach and maintain the regulatory reserve of members' contributions.

The challenge here is for medical schemes to discern between legitimate and fraudulent claims, which is a mammoth task. Nsiah-Boateng *et al.* (2017) posited that an essential part of operating an efficient and viable healthcare financing system is the successful discovery of fraud, errors and abuse. The types of fraud experienced by the healthcare sector should therefore be identified, in order to manage this risk effectively (Thornton, Brinkhuis, Amrit & Aly, 2015). The next section discusses the research problem of this study.

### **1.3 Problem statement**

Recent research conducted in the previous five years in the healthcare fraud domain indicates the various ways in which the healthcare sector is defrauded. Thornton *et al.* (2015) revealed that healthcare fraud occurs mostly in the form of claiming for services not rendered (false/ phantom claims), up-coding, unbundling of codes, rendering of unnecessary services, using unauthorised service providers, identity fraud, duplicate claims, and the sharing of healthcare benefits with members not belonging to the medical scheme. The findings of the study conducted by Debpuur, Dalaba, Chatio, Adjuik and Akweongo (2015) showed that members seeking unnecessary healthcare services abused the national health insurance scheme in Ghana. The sharing of medical scheme membership cards with non-members was also uncovered in the study carried out by Debpuur *et al.* (2015).

Flynn (2016) found that the private health insurance industry experienced various types of fraud. In particular, this industry was defrauded through scams by identity thieves and service providers (Flynn, 2016). The service providers were providing cosmetic surgery, which is an excluded benefit, but claimed for a covered benefit (Flynn, 2016). Like Thornton *et al.* (2015), Debpuur *et al.* (2015) and Flynn (2016) found that service providers billed scheme members for services not provided, overcharged members for services, and over-serviced members. Thornton *et al.* (2015) and Flynn (2016) reported that kickback schemes were a way to defraud the healthcare sector. In the South African context, the nature of fraudulent activities found by Norjé and Hoffmann (2016) encompassed submission of false claims and irregular coding, resulting

in higher amounts being billed, which is a similar pattern reported by Thornton *et al.* (2015), Debpuur *et al.* (2015) and Flynn (2016).

Most of the recent studies conducted in the area of management of fraud in healthcare mainly investigated the manner in which technology can assist in fraud detection (Wakoli, Orto & Mageto, 2014; Joudaki, Rashidian, Minaei-Bidgoli, Mahmoodi, Geraili, Nasiri & Arab, 2015; Abdallah, Maarof & Zainal, 2016; Van Capelleveen, Poel, Mueller, Thornton & Van Hillegersberg, 2016). A study by Wakoli *et al.* (2014) on the medical claims of insurance companies in Kenya found that the K-Means clustering model could be used to identify suspicious fraudulent claims. The study by Joudaki *et al.* (2015), which focused on physician claims in an Iranian private healthcare insurance company, found that data mining techniques such as cluster analysis could be utilised to identify suspected fraudulent claims and providers. Van Capelleveen *et al.* (2016) also found that unsupervised data mining techniques could be used to identifying outlier claims, and utilised Medicaid data focusing on dentists' healthcare claims for one state in the United States.

Healthcare fraud has been studied in various countries, as indicated in the preceding discussion. Although healthcare fraud is regarded as a major risk, there is limited available scholarly literature on the phenomenon in South African medical schemes. This study aimed to identify fraudulent activities committed against South African medical schemes in terms of claims. Moreover, this study explored strategies to mitigate fraud risk in medical scheme claims in the South African context. To this end, a matrix representing strategies to mitigate fraud in South African medical schemes is advanced in this study.

The research questions and objectives that were derived from the problem under investigation in this study, namely fraud in medical scheme claims in South Africa, are outlined in the following section.



#### **1.4 Research questions**

The primary research question addressed by this study was the following:  
How can South African medical schemes mitigate fraud in claims?

The secondary research questions were as follows:

- What types of fraudulent activities have been perpetrated against South African medical schemes?
- What strategies could be implemented by South African medical schemes to manage fraud in claims?

#### **1.5 Objectives of the study**

The overall objective of the study was to identify strategies that South African medical schemes could implement in order to mitigate fraud in their claims.

The secondary objectives of the study were to:

- Identify the types of fraudulent activities perpetrated against South African medical schemes;
- Explore strategies that could be implemented to manage fraud in South African medical scheme claims.

#### **1.6 Contributions of the study**

The study aimed to identify the manner in which South African medical schemes are defrauded. In addition, it explored strategies that could be utilised by the medical schemes to mitigate fraud in claims.

The recommendations arising from the study can be implemented by medical schemes to mitigate fraud in claims, thereby reducing the amount of money spent on fraudulent medical claims. This will increase the reserves and improve

the financial viability of medical schemes. These savings will ultimately result in a better quality of healthcare through the enrichment of benefit offerings by medical schemes, and reduce the rate of increase for monthly contributions, thereby improving affordability for members.

## **1.7 Methodology**

This study adopted an interpretivist philosophical stance, which purports that there is more than one reality (Creswell, 2014). The interpretivist philosophical position was deemed appropriate for the study, as the researcher was more concerned about gathering rich insights into subjective meanings, rather than generalisation of the findings. A cross-sectional qualitative study was conducted, using a single case study. A case study strategy enables the researcher to study the problem comprehensively in its natural setting (Yin, 2012). The population for the study was all medical scheme administrators in South Africa. One medical scheme administrator company was purposively selected as a case study, since it administers a sizeable number of beneficiaries, who belong to both open and closed medical schemes. From this company, 15 participants were purposively selected. According to Rule and John (2011), purposive sampling is a technique that allows the researcher to select the most relevant participants, who will be able to provide high-quality data pertaining to the study. Therefore, selection criteria were based on their ability to provide rich insight into the fraudulent activities perpetrated against medical schemes, and the manner in which this risk could be mitigated.

Utilising an interview schedule comprising open-ended questions, data was collected by the researcher through individual semi-structured interviews. Open-ended questions allowed the participants to answer the questions without being restricted to pre-formulated answers (Beins, 2013). Semi-structured interviews provide some guidance for the interview, whilst allowing the researcher the flexibility to clarify responses and ask additional questions (Myers, 2013). The interviews were scheduled with research participants at a convenient time, and were held at participants' place of work for an hour. The interviews were recorded with an audio-recorder, and notes were also taken by

the interviewer. The interviews were then transcribed from audio to text. Thematic data analysis was done using ATLAS.ti qualitative data analysis software. Data was first coded and patterns that emerged from the data were then identified and grouped into themes to produce meaningful findings. Based on the findings of the study, conclusion and recommendations were made on how to mitigate fraud risk in South African medical schemes.

## **1.8 Research ethics**

The study was conducted in an ethical manner. Informed consent was requested in writing from the company selected as a case study, as well as from the individual participants who were interviewed. The identities of the company and participants were kept confidential, and all participants were protected from harm. Furthermore, ethical clearance for the study was granted by the University of South Africa before conducting the research (see Appendix B for the ethical clearance certificate).

## **1.9 Limitations and delimitations**

The healthcare financing system in South Africa encompasses the public sector, donor funds, and the private sector, which is further subdivided into medical schemes, pure health insurance and out-of-pocket payments (Ataguba & Akazili, 2010; Econex, 2013). In this study, the focus was limited to fraud in the medical scheme claims in South Africa. A study focusing on the healthcare sector as a whole may not yield similar results to this study. The qualitative research methodology used to conduct the study implies that the results cannot be generalised to all the medical schemes in South Africa, as a representative sample was not selected for data collection.

## **1.10 Structure of the study**

The study consisted of the following five chapters:

- Chapter one introduced the study. The background to the problem was detailed. In addition, the problem statement, research questions, objectives of the study, method of investigation and structure of the study were discussed.
- In chapter two, the theories that support the study were discussed, as well as the risk management concepts. Existing empirical literature relating to healthcare fraud was reviewed, and the medical scheme industry was briefly explained. The chapter concluded by discussing the challenges in mitigating healthcare fraud.
- In chapter three, the research methodology used in the study was discussed, in particular the qualitative research methodology and case study strategy adopted in the study. The chapter also discussed the data collection and analysis procedures which were followed in the study. The manner in which the measures of trustworthiness were addressed were also described, as well as the ethical issues that were considered.
- Chapter four presented the findings of the study, which were analytically interpreted and grouped into themes.
- Chapter five reported on the conclusion of the study and made recommendations on strategies to mitigate fraud risk in medical schemes. Furthermore, limitations of the study and suggested areas for further research were discussed.

The next chapter focuses on a review of the theories that support the study, and discusses risk management concepts. Furthermore, related literature is reviewed on the topic under study.

## **CHAPTER 2: LITERATURE REVIEW ON FRAUD**

### **2.1 Introduction**

The previous chapter introduced the study. The purpose of this chapter is to review literature pertaining to fraud elements, based on the fraud triangle and diamond theories. Fraud risk management concepts are also discussed in this chapter, and literature is reviewed in order to understand the types of fraud in healthcare, as well as mitigating strategies in this regard. The healthcare financing system in South Africa, with a focus on medical schemes, is also outlined in the chapter.

### **2.2 Definition of key terms**

In this section, the key terms used in this study are defined, namely operational risk, fraud, healthcare fraud, and a medical scheme in the South African context.

#### **2.2.1 Definition of operational risk**

Several definitions of operational risk have been advanced in the literature, as indicated below.

Operational risk is defined as “the risk of loss resulting from inadequate or failed internal process, people, and systems or from external events” (Chapman, 2013:268-269; Laycock, 2014:193).

Operational risk is also defined as “the exposure of an organisation to potential losses, resulting from shortcomings and/or failures in the execution of its operations. These losses may be caused by internal failures or shortcomings of people, processes and systems, as well as the inability of people, processes and systems to cope with the adverse effects of external factors” (Young, 2014: 21).

The Basel Committee on Banking Supervision classifies fraud as one of the operational risks, and further categorises fraud as either internal or external fraud (Girling, 2013). Internal fraud may emanate from the actions of people in the employ of the company (Girling, 2013). External fraud in the healthcare domain may arise from healthcare service providers and syndicates submitting false claims to healthcare insurers (Flynn, 2016). Risk control involves “the activities designed for the purpose of eliminating or reducing the factors that may negatively influence the strategic objectives and may cause a loss to the organisation” (Young, 2014:103).

### **2.2.2 Definition of fraud**

Fraud can be defined as “the intentional deception that covers any crime for gain that causes the victim to endure a loss and causes the perpetrator to realise a gain” (Arshad, Razali & Bakar, 2015:115).

Wekesa, Namusonge and Makokha (2016:375) state that “fraud is an intentional act of individuals among management, employees or third parties who produce errors in financial reporting in favour of their personal desires”.

The Committee of Sponsoring Organizations of the Treadway Commission (COSO, 2016: viii) defines fraud as “any intentional act or omission designed to deceive others, resulting in the victim suffering a loss and/or the perpetrator achieving gain”.

From the aforementioned definitions, it is clear that fraud is an intentional act aimed at deceiving others (Arshad *et al.*, 2015; Wekesa *et al.*, 2016; COSO, 2016: viii). The perpetrator of fraud profits, whilst the victim suffers or experiences a loss (Arshad *et al.*, 2015; COSO, 2016).

### **2.2.3 Definition of healthcare fraud**

In the healthcare context, Ogunbanjo and van Bogaert (2014:S10) define healthcare fraud as “a white-collar crime involving the filing of dishonest

healthcare claims in order to achieve a profit". Another behaviour that is proximal to fraud is abuse. However, in the case of the latter, the intention to derive overpayment for healthcare services rendered cannot be verified (Rudman, Eberhardt, Pierce & Hart-Hester, 2009). Although there is a difference between abuse and fraud in healthcare, these behaviours could be committed concurrently (Joudaki *et al.*, 2015).

In this study, the researcher defines medical scheme fraud as any premeditated activity by an internal and/or external person; aimed at profiting by submitting false, irregular or inflated claims, which results in financial loss to the medical scheme.

#### **2.2.4 Definition of a medical scheme**

The Medical Scheme Act (1998) defines the business of a medical scheme as "the undertaking liability in return for a premium or contribution:

- to make provision for the obtaining of any relevant health service,
- to grant assistance in defraying expenditure incurred in connection with the rendering of any relevant health service, and
- where applicable, to render a relevant health service, either by the medical scheme itself, or by any supplier or group of suppliers of a relevant health service or by any person, in association with or in terms of an agreement with a medical scheme" (Medical Schemes Act 131, 1998:3-4).

### **2.3 Theories on fraud**

The theories examined in this study in order to understand the reasons for fraud were the Fraud Triangle Theory and its extended variant, namely the Fraud Diamond Theory.

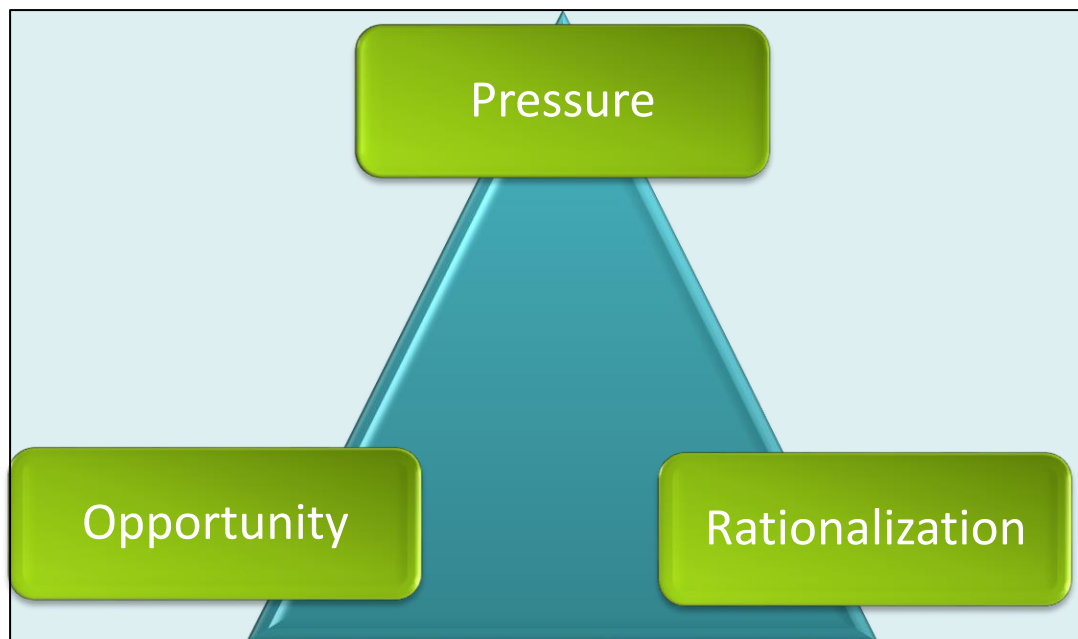
### **2.3.1 Fraud Triangle Theory**

The Fraud Triangle Theory developed by Donald Cressey (1953) is a classical theory that has been extensively utilised theoretically and practically to understand and manage fraud (cited in Schuchter & Levi, 2016). Cressey conducted a study in 1950 to identify the elements that lead to people in positions of trust committing white-collar crime (Abdullahi & Mansor, 2015; Schuchter & Levi, 2016). In Cressey's study, over 120 participants who had been imprisoned for white-collar crimes committed whilst in a position of trust in their previous employment were interviewed (Schuchter & Levi, 2016).

Cressey found that three factors have to be present prior to someone committing a white-collar crime (Abdullahi & Mansor, 2015). Firstly, the violators of trust perceive that the problem cannot be shared with other people (Schuchter & Levi, 2016). This non-shareable problem is referred to as pressure, motivation or incentive in recent literature (Wolfe & Hermanson, 2004; Abdullahi & Mansor, 2015; Schuchter & Levi, 2016). Secondly, Cressey indicated that the opportunity to commit fraud should be present (Abdullahi & Mansor, 2015). Thirdly, the person rationalises the behaviour in order to perpetrate fraud (Abdullahi & Mansor, 2015; Schuchter & Levi, 2016).

The study culminated in the development of an explanatory framework for financial fraud, namely the Fraud Triangle Theory (Schuchter & Levi, 2016). This theory, which is depicted in Figure 2.1 below, comprises of three elements: pressure, opportunity and rationalisation.





*Figure 2.1 The fraud triangle*

*Source: Abdullahi and Mansor (2015:9)*

### **2.3.2 Fraud Diamond Theory**

Wolfe and Hermanson (2004) extended the Fraud Triangle Theory to include a fourth element, after realising that despite efforts to curb fraud, this risk was still escalating. Wolfe and Hermanson (2004) recommended that in order to effectively detect and prevent fraud, the capability of the perpetrator to commit fraud should be considered. This resulted in an improved theory, namely the Fraud Diamond Theory. Various authors have cited the theory as a valuable structure to manage fraud within organisations (Abdullahi & Mansor, 2015; Ruankaew, 2016). The other point raised by Wolfe and Hermanson (2004) was that even if the three factors of pressure, opportunity and rationalisation are present, if the potential perpetrator does not have the capability to commit a fraudulent act, this act will not occur. Figure 2.2 below depicts the fraud diamond.



*Figure 2.2 The fraud diamond*

*Source: Wolfe and Hermanson (2004:38)*

The elements of fraud that emerged from the fraud triangle and fraud diamond theories are discussed in the next section.

### **2.3.3 Elements of fraud**

#### **2.3.3.1 Pressure/ motivation/ incentive**

The element of pressure exists because the person views the problem as non-shareable, and this serves as a motivation for committing white-collar crime (Schuchter & Levi, 2016). In most cases, this problem is related to financial difficulties, though social and political pressures can encourage fraudulent behaviour as well (Abdullahi & Mansor, 2015). Thus, others will view the perpetrator as having a higher social status if he or she is financially successful (Schuchter & Levi, 2016). According to Imoniana and Murcia (2016), political pressure emanates from the need of people with political power to preserve their positions by awarding projects to members in their political parties in a fraudulent manner. Furthermore, the fraudster wants to be regarded as financially successful in his or her chosen career (Lokanan, 2015).

#### 2.3.3.2 *Rationalisation*

According to Abdullahi and Mansor (2015), rationalisation implies that a person tries to justify his or her immoral behaviour before committing fraud, in order to minimise their guilty conscience. Ruankaew (2016) posited that fraudsters convince themselves mentally that it is acceptable to engage in unethical behaviour. In terms of internal fraud, the perpetrator rationalises the fraudulent act by blaming the organisation (Soltani, 2014).

#### 2.3.3.3 *Opportunity*

The prospect of committing fraud emanates from poor controls to manage fraud within the system, which convinces the fraudster that the chance of success is high and there is lower risk of being caught (Abdullahi & Mansor, 2015). An environment that is characterised by poor controls creates an opportunity for fraud to be successfully committed against an organisation. Morris (2009) posited that organised criminals are moving from drug dealing to healthcare fraud, as there are opportunities to commit fraud successfully without being caught. The element of opportunity could play a major role in mitigating fraud in healthcare, since the weaknesses in internal controls can be reduced to limit the frequency of fraud events in healthcare.

#### 2.3.3.4 *Capability*

A person who is able to commit fraud has specific personality traits and abilities (Abdullahi & Mansor, 2015). Wolfe and Hermanson (2004) posited that these traits and abilities include the fact that the person occupies a position that allows fraud to be committed, and knows how to exploit the controls that have been put in place. In addition, this person is egotistical, self-confident, manages stress well and has the ability to force other people to commit fraud (Wolfe & Hermanson, 2004). The personality trait of being able to influence other people to commit fraud increases collusion amongst fraudsters.

Schuchter and Levi (2016) conducted a study in 2010 with nine Swiss and four Austrian white-collar fraudsters who either served time in prison or were never incarcerated for their crimes. Schuchter and Levi (2016) revealed that not all the fraud triangle elements have to exist concurrently in order to predict fraudulent behaviour. The most common and significant factor identified by the study participants was perceived pressure to commit fraud. Nevertheless, Schuchter and Levi (2016) suggested that all the fraud elements could be modified by organisations to reduce the probability of fraud occurring.

The fraud elements that were discussed in the previous subsections have become the pillars for understanding the factors that influence fraudulent activities. The consideration and understanding of elements of fraud assist in the management of healthcare fraud. In such circumstances, the patient entrusts service providers, such as medical practitioners and nurses, with his or her health. The element of trust makes the patient and funders of healthcare vulnerable to fraud in cases where this trust has been violated.

The understanding of risk factors could assist healthcare organisations, including medical schemes, to introduce measures to reduce fraud losses. For instance, implementing visible controls minimises the opportunity for fraudulent activities. Furthermore, ongoing fraud awareness training and monitoring of new trends facilitate effective responses to fraud risk (Schuchter & Levi, 2016). The fraud triangle informs and guides the formulation of internal audit standards for fraud detection (Schuchter & Levi, 2016).

The previous discussion concentrated on the elements that are precursors to fraudulent behaviour, based on the fraud triangle and fraud diamond theories. The following section examines the different types of fraud, with a focus on healthcare fraud.

## **2.4 Types of fraud**

Fraud reported in recent times includes Ponzi and pyramid schemes, securities fraud, corporate accounting financial scandals, healthcare fraud, automobile insurance fraud and art forgeries fraud (Gong, McAfee & Williams, 2016). The ensuing discussion focuses on types of healthcare fraud.

### **2.4.1 False claims**

False claims, also referred to as phantom claims, are submitted to the healthcare funder for services that were not rendered (Thornton *et al.*, 2015). This is the most common type of fraud committed against healthcare funders (Pande & Maas, 2013). Such claims are sometimes submitted to the provider, who is in collusion with the insured member, when there is an agreement between the service provider and member to defraud the healthcare funder (Abdallah *et al.*, 2016). In other instances, service providers obtain the health insurance details of the member and submit false claims without the member's knowledge (Flynn, 2016). With regard to the submission of false claims, collusion may also occur amongst service providers (Joudaki *et al.*, 2015). Identity fraud could also occur without the member being privy to this, as in cases of syndicate scams, where the intention is to submit false claims to the healthcare insurer, utilising the member's profile (Flynn, 2016).

### **2.4.2 Over-servicing/unnecessary healthcare services**

This occurs when the healthcare provider renders a healthcare service that is over and above what is required (Abdallah *et al.*, 2016). The service provided does not improve the clinical outcome of the patient and is questionable in comparison with the normal practice followed by the service provider's peers (Flynn, 2016). Members put their trust in the healthcare provider and are unable to determine the type and level of service needed (Van den Heever, 2012). The false diagnosis of a medical condition is given to health insurers, in order to justify the over-prescription and tests conducted by the service provider (Rashidian, Joudaki & Vian, 2012). Pande and Maas (2013) reported the case

of a physician who performed unnecessary eye operations on psychiatric patients in the United States and blinded some of them.

#### **2.4.3 Sharing of health benefits with non-members**

Members of health insurance who give their membership cards to non-members seeking healthcare services (Debpur *et al.*, 2015) commit this type of fraud. In contrast with syndicated fraud, the members willingly consent to an illegible person utilising their health insurance membership card.

#### **2.4.4 Claiming for excluded products/ services as a covered benefit**

The service provider claims for an excluded product, but misrepresents the information on the account, in order to indicate that a covered service or benefit was provided (Flynn, 2016). For instance, the author found that in Australia, prostitutes were providing sexual services, which is an excluded benefit, and misrepresenting the claim to the health insurer as massage therapy, which is a covered benefit.

#### **2.4.5 Coding irregularities**

According to Abdallah *et al.* (2016), coding irregularities could take the form of up-coding, code padding and unbundling of codes. Rashidian *et al.* (2012) defined up-coding as a practice whereby the provider bills the patient for a costlier service than that which was actually provided. For instance, up-coding fraud could occur when the healthcare provider submits a claim to the funder indicating that the duration of the consultation was 30 minutes, even though the patient was only seen for 10 minutes (Bauder *et al.*, 2017). Code padding is the fraudulent billing for extra codes for services provided, whilst the unbundling of codes is when several individual codes are charged, in order to derive more monetary benefit than charging for a single inclusive code (Thornton *et al.*, 2013).

#### **2.4.6 Waiving of members' deductibles**

This occurs when service providers fraudulently waive co-payments, which are levied by health insurers to curb costs, at the point of service (Thornton *et al.*, 2015). This practice will increase the demand for these providers' services, as the insured does not incur costs, as per agreement with the insurer.

#### **2.4.7 Illegible service providers**

In this regard, non-medical professionals provide healthcare services to members and claim from the healthcare insurance company (Pande & Maas, 2013; Norjé & Hoffmann, 2016). The risk of unregistered entities providing healthcare services was highlighted in the South African public sector, where the outsourcing of healthcare for psychiatric patients resulted in 91 deaths (Office of the Health Ombud, 2017).

#### **2.4.8 Double billing**

Duplicate claims refers to instances where the service provider bills twice for the same service, in order to defraud the funder (Thornton *et al.*, 2013; Abdallah *et al.*, 2016). Nsiah-Boateng *et al.* (2017), in their study on the Ghanaian healthcare insurance industry, found that providers were fraudulently submitting duplicate claims.

#### **2.4.9 Kickbacks and self-referrals**

Providers sometimes refer patients to other service providers for unnecessary services, in order to increase the utilisation of services (Abdallah *et al.*, 2016). The referring healthcare professional sometimes receives kickbacks (commission) or has financial interests in the company to which patients are referred for further treatment (Thornton *et al.*, 2015).

Healthcare fraud exists in the form of false claims, providing clinically unnecessary healthcare services, coding irregularities, double billing, waiving

members' deductibles, kickbacks, self-referrals and claiming for excluded products or services. Furthermore, members of a healthcare insurance share their benefits with illegible members, thereby defrauding healthcare funders. Unqualified people also defraud healthcare insurers by providing healthcare services, even though they are not qualified healthcare professionals. Provision of unwarranted healthcare services could harm the member's health (Pande & Maas, 2013). Moreover, fraudulent claims drain the financial resources intended to provide healthcare (Nsiah-Boateng *et al.*, 2017).

The following section discusses fraud risk management.

## **2.5 Fraud risk management**

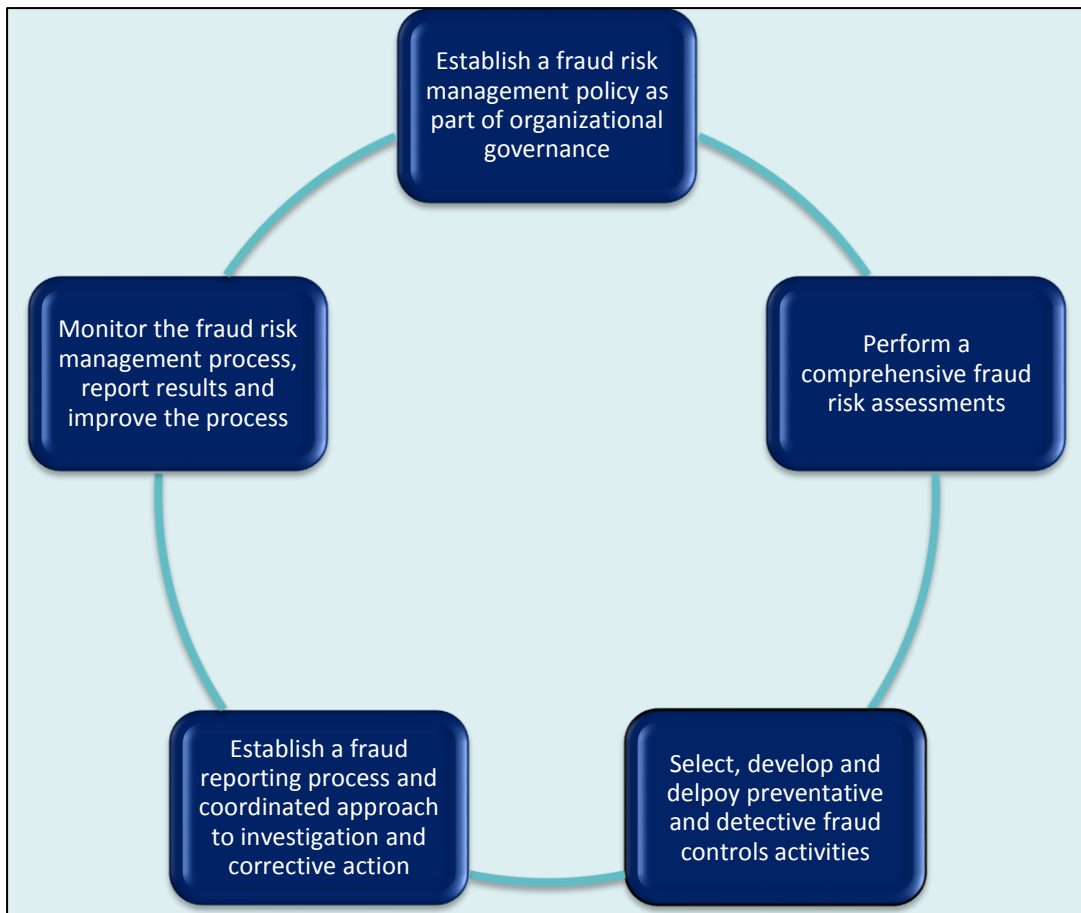
The Council for Medical Schemes (2012) positions risk management as a key area of medical scheme management. It states that "the scheme should provide full details on risk management tools currently in place, as well as those risk management tools to be implemented to improve the solvency levels of the scheme" (Council for Medical Schemes, 2012). The Basel Committee of Banking Supervision includes fraud as one of the operational risks (Girling, 2013). Risk could either have an upside consequence, which is positive to the organisation, or a downside consequence, where the occurrence of the risk will affect the organisation negatively, such as fraud and financial loss (Young, 2014).

Risk appetite is defined as "the amount and type of risk that an organisation is willing to take to achieve its strategic objectives". Therefore, an organisation will not have a risk appetite for fraud, as it is part of financial crimes (Blunden & Thirlwell, 2013:62). Fraud risk does not provide an advantage to organisations, and therefore has to be managed. According to Blunden and Thirlwell (2013), risk management is driven by the operational risk management process. The risk management process is defined by Young (2014:47) as the "systemic application of risk policies, procedures and practices by means of identification, evaluation, control, financing and monitoring of operational risks".



COSO advanced 17 principles in the revised 2013 internal control integrated framework (COSO, 2015). Principle eight of this framework puts particular emphasis on fraud risk assessment, indicating that “the organization should consider the potential for fraud in assessing risks to the achievement of objectives” (COSO, 2016: ix). The responsibilities for different levels of management pertaining to principle eight are also outlined. Firstly, COSO (2015) recommends that the board provides oversight of the systems and processes designed to detect and deter fraud, ensures that intermittent reports pertaining to fraud management are provided, and creates a culture that facilitates fraud control in the organisation. Reuvid (2013) emphasised the importance of the board having a clear understanding of the organisation’s overall exposure to risk. Secondly, the first line of defence, which refers to risk owners and managers, should carry out processes aimed at fraud deterrence and detection, and together with internal and external auditors, review the fraud risk exposure of the organisation (COSO, 2015).

Thirdly, the risk, control and compliance functions, as the second line of defence, should ensure that fraud is included in risk and control assessments (COSO, 2015). The second line of defence and fraud investigative units may also be tasked with the development and monitoring of fraud risk policy in the organisation (COSO, 2015). Lastly, internal audit, which is the third line of defence, should have adequate information regarding fraud, and keep this risk in mind when conducting audits (COSO, 2015). In order to guide organisations with regard to fraud risk management, COSO proposed a comprehensive risk management process, which is depicted in Figure 2.3 below.



*Figure 2.3 Ongoing comprehensive fraud risk management process*

*Source: COSO (2016: xiii)*

Like COSO (2016), Young (2015) proposed the same steps in the operational risk management process, which consists of risk identification, risk assessment, risk mitigation and control, and continuous monitoring and communication. Rashidian *et al.* (2012) suggested that healthcare fraud could be mitigated through the inclusion of preventative, detective and reactive measures in the strategies that form part of the COSO (2016) fraud risk management process. The steps in the COSO fraud risk management process are discussed in the following subsections.

### **2.5.1 Establishment of a fraud risk management policy as part of organisational governance**

A fraud risk management policy is first established and communicated to all employees of the company by the board of directors and senior management as part of governance (COSO, 2016). A fraud policy is one of the directive control measures aimed at providing guidance to the organisation (Blunden & Thirlwell, 2013).

### **2.5.2 Performance of comprehensive fraud risk assessments**

In this step, the fraud risks facing the organisation are identified and assessed (COSO, 2016) by conducting workshops or interviews (Girling, 2013). The various elements that need to be considered in order to effectively identify and assess the risks include the reviewing of past risk and control assessments, internal loss history, and external events (Girling, 2013). Risk identification involves a group of experienced employees of the organisation establishing the 'risks and opportunities', which are then recorded in the risk register by the facilitator (Chapman, 2013:159). After identifying these risks, they are assessed either qualitatively or quantitatively. Qualitative assessment of the risk involves differentiating it according to its frequency and potential impact (Young, 2014). Quantitative assessment of the risk refers to the utilisation of risk scenarios and modelling to quantify the risk (Blunden & Thirlwell, 2013).

### **2.5.3 Selection, development and deployment of preventative and detective fraud control activities**

COSO (2016) recommends the implementation of preventative and detective controls after identifying and assessing risks. Preventative controls seek to stop the event from occurring, whilst detective control measures aim to identify the risk timeously as it happens, and then put preventative control measures in place (Young, 2014). In the healthcare domain, known types of fraud such as duplicate claims can be detected and rejected for payment through data mining

techniques (Nsiah-Boateng *et al.*, 2017). The problematic claim is automatically rejected, which prevents any financial loss to the funder.

#### **2.5.4 Establishment of a fraud process**

The organisation should put a fraud process in place, in order to provide a synchronised, seamless system to investigate fraud, and take corrective action once fraud has been confirmed (COSO, 2016). Corrective action should be taken after the risk event has occurred, and aim to remedy the effects of the risk (Blunden & Thirlwell, 2013).

#### **2.5.5 Monitoring of the fraud risk management process, reporting of the results, and improvement of the process**

The fraud risk management process has to be intermittently evaluated and reported on to determine any shortcomings, so that corrective actions can be taken timeously to improve the process (COSO, 2016). The strategies to mitigate healthcare fraud are discussed in the next section.

### **2.6 Healthcare fraud and mitigating strategies**

The recent research conducted on healthcare fraud mitigation indicates that various strategies could assist in curbing fraud. These strategies that include member verification at the point of service, fraud awareness, stakeholder collaboration, data mining techniques and personnel with requisite skills will be discussed in the following subsections.

#### **2.6.1 Member verification at the point of service**

Member verification at the point of service can curb illegibility fraud and assist in mitigating the risk (Debpur *et al.*, 2015). The authors further recommended that improvement of the quality of the picture should be enhanced to assist the healthcare providers to confirm whether the member seeking care indeed qualify for the service.

### **2.6.2 Fraud awareness**

Flynn (2016) recommended that fraud awareness amongst healthcare insurance members could help to mitigate this risk. The manner in which healthcare schemes function, which is through cross-subsidization of costs should be explained to members (Debpuur *et al.*, 2015).

### **2.6.3 Stakeholder collaboration**

Collaboration between healthcare funders, both in the public and private sectors, should combine efforts to effectively and efficiently mitigate fraud-related losses (Flynn, 2016).

### **2.6.4 Data mining techniques**

Healthcare fraud can be detected utilising various data mining techniques and irregular patterns for further investigation (Wakoli *et al.*, 2014; Van Capelleveen *et al.*, 2016). Furthermore, fraud could be prevented by automatically rejecting known activities, for instance duplicate claims and illegible members' claims through built-in automated system rules (Nsiah-Boateng *et al.*, 2017).

### **2.6.5 Personnel with requisite skills**

Personnel with required skills should be tasked with fraud management strategies (Flynn, 2016). The various requisite skilled mentioned by Flynn (2016) include amongst others statistical and clinical expertise. The next section discusses the South African medical scheme industry.

## **2.7 Overview of the South African medical scheme industry**

Prior to describing how the South African healthcare system is structured, it is important to know what a healthcare financing system is. According to Olakunde (2012:4), a healthcare financing system “involves the means in which funds are generated, allocated, and utilized for healthcare”. A healthcare

financing system primarily gathers funds, which may originate from tax, out-of-pocket or self-funding, donor financing and health insurance. It then assembles these funds and purchases healthcare services (Olakunde, 2012:4). Financing systems are varied and may exist side by side within a country. Thus, South Africa, similar to other developing countries, has both public and private health financing systems (Ataguba & Akazili, 2010). South Africa spent 8.9% as a proportion of its gross domestic product (GDP) in 2013 (Health Policy Project, 2016). In 2015, the public healthcare sector contributed 48.3% of the total healthcare expenditure, 49.8% was from private sources, whilst donor funds only contributed 1.9% to the total healthcare costs (Health policy project, 2016). The medical schemes funded 83% of the total private healthcare expenses (Health policy project, 2016).

In South Africa, health insurance products are offered by medical schemes, as well as long-term and short-term insurers (Childs & Erasmus, 2012). The pure private health insurance offered by long-term and short-term insurance companies is regulated by the Financial Services Board (FSB) and funds a significantly low percentage of healthcare in South Africa (Erasmus *et al.*, 2016). The products offered by these long-term and short-term companies are for profit, and include hospital cash plans, and dreaded disease and gap cover (Econex, 2013; Erasmus *et al.*, 2016).

Medical schemes pool members' contributions and fund healthcare services and products at the point of service (Council for Medical Schemes, 2008; Van den Heever, 2012). The Medical Schemes Act 131 of 1998 defines the business of a medical scheme as the business of undertaking liability in return for a premium or contribution, in order to make provision for obtaining any relevant health service (Medical Schemes Act 131, 1998). The medical scheme pays for costs related to the rendering of any relevant healthcare service and, where applicable, to the rendering of a relevant health service, either by the medical scheme or by any supplier or group of suppliers of a relevant health service, or by any person, in association with or according to an agreement with a medical scheme (Medical Schemes Act 131, 1998).

According to Erasmus *et al.* (2016), the medical schemes in South Africa are regulated by the Council for Medical Schemes (CMS). The role of the CMS is established by the Medical Schemes Act 131 of 1998, which mainly provides regulatory supervision of private health financing by medical schemes. The CMS is responsible for a significantly large sector (Medical Schemes Act 131, 1998), with the aim of, *inter alia*, safeguarding the welfare of medical schemes and members; gathering and distributing information regarding private healthcare in South Africa; overseeing the financial viability and solvency levels of medical schemes; and ensuring that medical scheme operations are aligned with the national health policy (Medical Schemes Act 131, 1998).

Ramjee and McLeod (2010:180) listed the private health participants according to their functional roles in the healthcare system as follows:

- Revenue Collection: Stakeholders involved in revenue collection include individual members of the public, organised labour, employers, brokers, and all taxpayers;
- Pooling: Medical schemes and medical scheme members;
- Purchasing: Purchasers consist of medical schemes, medical scheme administrators, managed-care organisations; and
- Delivery: Healthcare service delivery stakeholders include private hospitals, pharmaceutical industry, medical practitioners, nurses, traditional healers, pharmacists and pharmacy owners.

Medical schemes exist solely for the well-being of beneficiaries, with principal members being obliged to pay a monthly contribution and have the right to receive benefits in return, as per the registered rules of the scheme (CMS News, 2009/2010). Accordingly, medical scheme members are supposed to refrain from being dishonest, and must therefore desist from claiming for 'fraudulent claims', failing which the member could be 'suspended' and 'terminated' from the medical scheme (CMS News, 2009/2010:2).

The medical scheme has the responsibility to pay for claims only in respect of registered members and dependants for whom contributions were received (CMS News, 2009/2010). Only two types of medical schemes exist in South

Africa, namely open (commercial) or closed (restricted) schemes (Van den Heever, 2012). An open medical scheme registered in South Africa is required to accept, as a member or dependant, any person who wishes to join that medical scheme. Furthermore, applicants must be accepted into the scheme regardless of factors such as their age or past and present medical history. In contrast, closed schemes only accept members employed by a specific entity or company (Erasmus *et al.*, 2016). According to the Council for Medical Schemes (2015/2016), there were 83 medical schemes in South Africa in 2015, comprising of 23 open schemes and 60 closed schemes. The law compels medical schemes to pay prescribed minimum benefit claims at full cost (Erasmus *et al.*, 2016). The total amount paid by medical schemes for healthcare benefits amounted to R138.6 billion in 2015 (Council for Medical Schemes, 2015/2016). In the following section, empirical literature pertaining to healthcare fraud schemes and mitigation of this risk is reviewed.

## **2.8 Empirical literature on healthcare fraud**

In this section, literature pertaining to healthcare fraud types and mitigation strategies is reviewed. The international perspective is considered first, followed by the South African context.

### **2.8.1 International perspective on healthcare fraud**

#### **2.8.1.1 *Fraud in healthcare***

The unique features of the healthcare industry make the sector vulnerable to fraud. The study conducted by Pande and Maas (2013) reviewed records to analyse the types of healthcare fraud committed by convicted doctors in the United States. The results of their study revealed that the most common type of fraud was billing for false claims, followed by kickbacks, up-coding and billing for medically unnecessary services. Debpuur *et al.* (2015) explored the moral behaviours and practices of service providers and members in the national health insurance scheme. The participants, which included community



members, scheme employees and healthcare providers, were selected from one of the 22 districts in Ghana (Debpuur *et al.*, 2015).

Debpuur *et al.* (2015) collected their data through focus group interviews and individual in-depth interviews. Data was analysed thematically using QSR NVivo 8 software (Debpuur *et al.*, 2015). The findings showed that the scheme was abused by members seeking unnecessary healthcare services and sharing their insurance membership cards with non-members (Debpuur *et al.*, 2015). Service providers also billed scheme members for services not provided, overcharged members for services that were provided, and overprescribed medication (Debpuur *et al.*, 2015).

Similar to Deppuur *et al.* (2015), Flynn (2016) followed a qualitative methodology in a study of fraud in the private health insurance sector in Australia. The purpose of the study was to highlight distinct fraud acts perpetrated against the sector, the strained relationship between the private and public health sector, and the negative effect of the Privacy Act on fraud detection and related recoveries. Data was collected through interviews from experts in healthcare fraud detection and fraud managers from the largest private health insurance company in Australia (Flynn, 2016).

The study by Flynn (2016) found that the private health insurance industry was exposed to various types of fraud. In this regard, the health insurance industry was defrauded through swindles by identity thieves and service providers (Flynn, 2016). The service providers were billing excessively for services; claiming for cosmetic surgery as a covered benefit; and claiming for services not rendered (Flynn, 2016). Thornton *et al.* (2015) reviewed the literature in order to classify healthcare fraud. Like Flynn (2016), the study found similar means through which this risk manifested itself. The additional types of fraud that were identified comprised of up-coding, unbundling of codes, using unauthorised service providers, kickback schemes, self-referrals, waiving of members' deductibles, and duplicate claim submissions (Thornton *et al.*, 2015). Pande and Maas (2013) found illegible service provider fraud, where individuals misrepresenting their qualifications provided healthcare services and claimed

from healthcare insurers. The next subsections reviews literature with regard to the mitigation of healthcare fraud.

#### 2.8.1.2 *Mitigating healthcare fraud*

In the study conducted by Debpuur *et al.* (2015), the participants suggested that to mitigate abuse within the national health insurance scheme in Ghana, the premiums should be reduced to increase affordability. In addition, the quality of the picture on the card should be enhanced and health providers should verify members by closely scrutinising the picture on the card at the point of service. Furthermore, limits should be applied to benefits, in order to curb the abuse of the scheme (Debpuur *et al.*, 2015). Providers and members should also be educated on how the national health insurance scheme functions through cross-subsidization of healthcare costs, and the implications of the failure of the scheme (Debpuur *et al.*, 2015). Flynn (2016) suggested that skilled personnel in clinical and statistical analysis should be tasked to manage fraud. Collaborative efforts between public and private health insurance industries also heighten the effectiveness of fraud management strategies (Flynn, 2016). Fraud awareness amongst members, as well as the enhancement of fraud detection and recovery procedures, can be implemented in the private health insurance sector (Flynn, 2016).

In the healthcare sector, there has been a change from the use of manual paper records to an electronic system (Abdallah *et al.*, 2016). The shift to electronic records has also enabled the sector to process claims speedily and efficiently (Abdallah *et al.*, 2016). However, the rapid payment of claims increases the risk of perpetrators remaining undetected, and consequently funding fraudulent claims. Nonetheless, the advent of electronic claims has created an opportunity for system application and data mining, which could support healthcare fraud management activities (Van Capelleveen *et al.*, 2016). The following section discusses how data mining technique could be utilised in mitigating fraud in healthcare claims.

a) *Data mining in healthcare fraud mitigation*

Data mining refers to the application of statistics, mathematics, artificial intelligence and machine learning to an enormous amount of data, in order to derive patterns and meanings (Abdallah *et al.*, 2016). The main data mining types utilised in healthcare fraud detection are supervised and unsupervised techniques (Joudaki *et al.*, 2015). According to Abdallah *et al.* (2016), supervised data mining involves the use of previously known and determined data that has been marked as fraudulent in nature, whilst the unsupervised approach detects fraud in data that is not categorised as fraud.

Therefore, numerous studies have been conducted on the mitigation of healthcare fraud through the support of systems. The studies related to the application of systems in the fraud management of healthcare claims are reviewed in the subsequent sections. Furlan and Bajec (2008) investigated the way in which a fraud management system could be used to support all activities targeting fraud, as previous studies have only focused on detection. The unit of analysis chosen by Furlan and Bajec (2008) was Slovenia. These authors collected empirical data through semi-structured interviews with law experts who were conversant with fraud, service providers from various disciplines of medicine, and 15 fraud investigators from Slovenia's public compulsory insurance and insurance companies (Furlan & Bajec, 2008).

In addition, Furlan and Bajec (2008) followed a case study approach and developed a fraud management system for one of Slovenia's voluntary health insurers. The objective of the study was to understand the practical challenges of implementing a comprehensive management system that supports all fraud-mitigating activities. The results supported the proposition of applying the fraud management system, not only for healthcare fraud detection, but also for supporting other activities, namely deterrence, prevention, investigation, sanction and redress, and monitoring.

Unlike Furlan and Bajec (2008), a survey conducted by Wakoli *et al.* (2014) in Kenya only focused on the use of system support to detect fraud. Medical

claims data from a randomly selected representative sample of 15 insurance companies was utilised (Wakoli *et al.*, 2014). The medical claims were clustered and the average amount claimed per cluster was calculated using the Java programming language and MySQL database (Wakoli *et al.*, 2014). Thereafter, the outlying claims from the norm were identified for further investigation. The study concluded that the K-Means clustering model would be effective in detecting suspicious fraudulent healthcare claims for further investigation (Wakoli *et al.*, 2014).

Nsiah-Boateng *et al.*'s (2017) study on the Ghanaian national health insurance scheme demonstrated that built-in rules for the electronic claims system were able to decrease the cost of claims at a higher rate when compared to the manual review of claims. The system rejected the payment of duplicate claims and illegible members' claims (Nsiah-Boateng *et al.*, 2017).

The study conducted by Joudaki *et al.* (2015) aimed to show how data mining could be used to identify healthcare fraud and the abuse of claims, as well as the perpetrators of this crime. Joudaki *et al.* (2015) selected one health insurance company based in Iran and applied data mining techniques to physicians' out-patient medication claims operating within individual private practices. The study found that data mining could assist in fraud detection in healthcare (Joudaki *et al.*, 2015). The conclusion was that 2.5% of the physicians were involved in fraud in relation to prescriptions for their insured members.

Van Capelleveen *et al.* (2016) conducted another discipline-oriented study on the Medicaid program in the United States, with a specific focus on paid dental claims. The authors found that the use of unsupervised data mining techniques was effective in identifying outliers in these claims (Van Capelleveen *et al.*, 2016). In order to validate the results, they further discussed the results through semi-structured interviews with two healthcare fraud experts. Van Capelleveen *et al.* (2016) found that 71% of the claims that had been identified as outliers by the system were confirmed by experts as being suspicious for fraud, and

required further investigation. The following section discusses healthcare fraud in the South African context.

### **2.8.2 South African perspective on healthcare fraud**

Norjé and Hoffmann (2016) followed a mixed methods approach to analyse the ethical transgressions of registered healthcare professionals in South Africa from 2007 to 2013. Historical records of healthcare professionals sanctioned by the Health Professions Council of South Africa (HPCSA) were studied, and the findings showed that fraudulent cases dominated all the transgressions at 51.7% (Norjé & Hoffmann, 2016).

Most of the ethical transgression cases occurred amongst medical and dental practitioners, followed by Optometry Dispensing Optician Boards, of which 85% of all cases were found to be fraudulent in nature (Norjé & Hoffmann, 2016). A similar study conducted by Norjé and Hoffmann (2015a) focused specifically on physiotherapists, and found that fraud cases constituted 70.3% of all the ethical transgressions. Norjé and Hoffmann (2015b), in their other study, revealed that 20% of all transgressions amongst psychologists were fraudulent in nature.

In the South African context, the nature of fraudulent activities found by Norjé and Hoffmann (2014, 2015a, 2016) was mostly related to the billing for services not rendered, which is a similar pattern to that reported by Pande and Maas (2013), Debpuur *et al.* (2015) and Flynn (2016). Service providers also submitted fraudulent claims to medical schemes (Norjé & Hoffmann, 2014, 2015a, 2015b, 2016). It was further revealed that dentists colluded with unregistered persons by billing for fraudulent medical scheme claims (Norjé & Hoffmann, 2014). Compiling a false medical report, billing for services of an outsourced unregistered laboratory, and misrepresentation of qualifications were amongst the most common types of fraud committed by healthcare professionals sanctioned by HPCSA (Norjé & Hoffmann, 2016). The following section discusses the literature reviewed in this study.

### 2.8.3 Discussion of reviewed literature on healthcare fraud

Some of the studies conducted in the field of healthcare do not focus specifically on fraud, which was the phenomenon under investigation in this study in relation to South African medical schemes. Debpuur *et al.* (2015) sought to investigate the moral hazards in the Ghanaian national health insurance scheme. Also, Nsiah-Boateng, *et al.* (2017) study was conducted in Ghana. In the South African context, Norjé and Hoffmann (2015a, 2015b, 2016) examined the case content of all ethical transgressions sanctioned by HPCSA which were not particularly focused on fraud in medical scheme claims.

Although, recent studies have been conducted in the healthcare sector pertaining to fraud, these studies mainly concentrated on technological support in the mitigation of healthcare fraud, except for the study conducted by Flynn (2016). However, the focus of the authors was on fraud detection in healthcare claims (Wakoli *et al.*, 2014; Abdallah *et al.*, 2016; Joudaki *et al.*, 2015; Van Capelleveen *et al.*, 2016). Furlan and Bajec (2008) recommended that the fraud management system must not only detect fraud, but should support all activities in the management of this risk.

The researcher agrees with Furlan and Bajec (2008), as the system could play a major role in healthcare fraud prevention, by automatically rejecting known fraudulent activities, thereby reducing this risk as well. This would enable resources to be allocated to the investigation of fraud cases and recoveries. Ongoing systems monitoring for known and unknown suspicious fraudulent claims is also essential in mitigating healthcare fraud.

In this study, a comprehensive approach to mitigating fraud in medical schemes was explored from the perspective of a South African medical scheme administrator, based on the view that fraud in the healthcare sector in South Africa was on the increase (Ogunbanjo & Van Bogaert, 2014). Secondly, the majority of ethical transgressions by healthcare providers sanctioned by HPCSA were fraudulent in nature (Norjé & Hoffmann, 2016). The findings by

Norjé and Hoffmann (2016) demonstrated that fraudulent cases dominated all the transgressions at 51.7%.

Flynn (2016) studied the same phenomenon as this study, but the unit of analysis was Australia's health insurance sector. The results of Flynn's (2016) study cannot be fully applied to South African medical schemes, due to the differences in healthcare financing systems between Australia and South Africa. In Australia, the publicly funded healthcare financing system is complemented by the healthcare insurance industry (Flynn, 2016). For example, hospitalisation-related costs are split, with 75% coming from public funds, and the remaining 25% being covered by health insurance (Flynn, 2016). However, in South African medical schemes, membership is voluntary (Macha, Harris, Garshong, Ataguba, Akazili, Kuwawenaruwa & Borghi, 2012). Nonetheless, South African medical schemes are by law supposed to cover prescribed minimum benefits (Macha *et al.*, 2012). The research methodology selected for this study was similar to that employed by Flynn (2016). In this regard, the qualitative approach was adopted and data was gathered from the personnel who are responsible for mitigating fraud in their daily work activities at one of the medical scheme administrators.

There is limited available scholarly literature regarding the mitigation of fraud in medical schemes in the South African context, hence the researcher opted to conduct this study. This study aimed to gain insight from a medical scheme administrator's perspective into healthcare fraud in medical scheme claims in South Africa. Moreover, the strategies to mitigate payment of fraudulent medical scheme claims were also investigated. The results and recommendations will add to the body of existing scholarly literature. Furthermore, medical scheme administrators in South Africa could apply the recommendations from this study to mitigate fraud in claims. The funds saved from the fraudulent claims could enrich the benefit offering, reduce the rate of increment of members' monthly contributions, increase affordability for non-members, and safeguard the financial sustainability of medical schemes. The following section addresses the challenges experienced in mitigating fraud in healthcare.

## **2.9 Challenges in healthcare fraud mitigation**

Fraud trends evolve over time (Gong *et al.*, 2016), which poses a significant challenge in mitigating this risk. The huge amounts of money that circulate in the healthcare sector attract fraudsters to the industry (Rashidian *et al.*, 2012). Drug dealers were reported to be moving into the healthcare industry, as the chance of being prosecuted for this type of crime is low (Morris, 2009). The study by Flynn (2016) found that the fight against fraud in the industry was impeded by health insurers' low level of investment in technology and human resources to manage this risk.

Van den Heever (2012) posited that on the demand side, the factors contributing to failure include the fact that there is disproportionate information between the insurer and the insured. In addition, the insurer does not know the health status of the insurance applicant. The nature of the healthcare sector makes it impossible to predetermine the cost, as every patient's medical condition is unique, and the client demands a high quality service (Duckert, 2011). Therefore, according to Van den Heever (2012), the recipients of healthcare services are unable to evaluate whether the service is required, discern the kind of service needed, and assess the quality of the service rendered, due to the way in which the industry is designed. This creates an opportunity for fraud to fester in healthcare claims, as in most instances the claim is paid by a third party, for instance, the health insurer (Benson & Simpson, 2015).

The lack of collaboration between public-funded insurance and private health insurers also frustrates the collective effort to mitigate fraud in the healthcare sector (Flynn, 2016). The large amount of healthcare data and the pressure to process the claims quickly presents a challenge in detecting fraud (Abdallah *et al.*, 2016; Flynn, 2016). Some laws, such as the Private Act in Australia, were viewed as an obstacle because this legislature prohibits the sharing of information amongst the entities, thereby eliminating the opportunity to identify fraud at an industry level (Flynn, 2016).



## **2.10 Conclusion**

The chapter reflected on the fraud triangle and fraud diamond theories, which seek to explain the elements that exist before a fraudulent act is committed. Fraud risk management concepts were also discussed in detail. This was followed by a discussion of the South African medical scheme industry. Literature was also reviewed in order to understand fraud in the healthcare sector. Lastly, strategies employed to mitigate fraud were explored.

The next chapter discusses the research methodology used to conduct this study.

## **CHAPTER 3: RESEARCH METHODOLOGY**

### **3.1 Introduction**

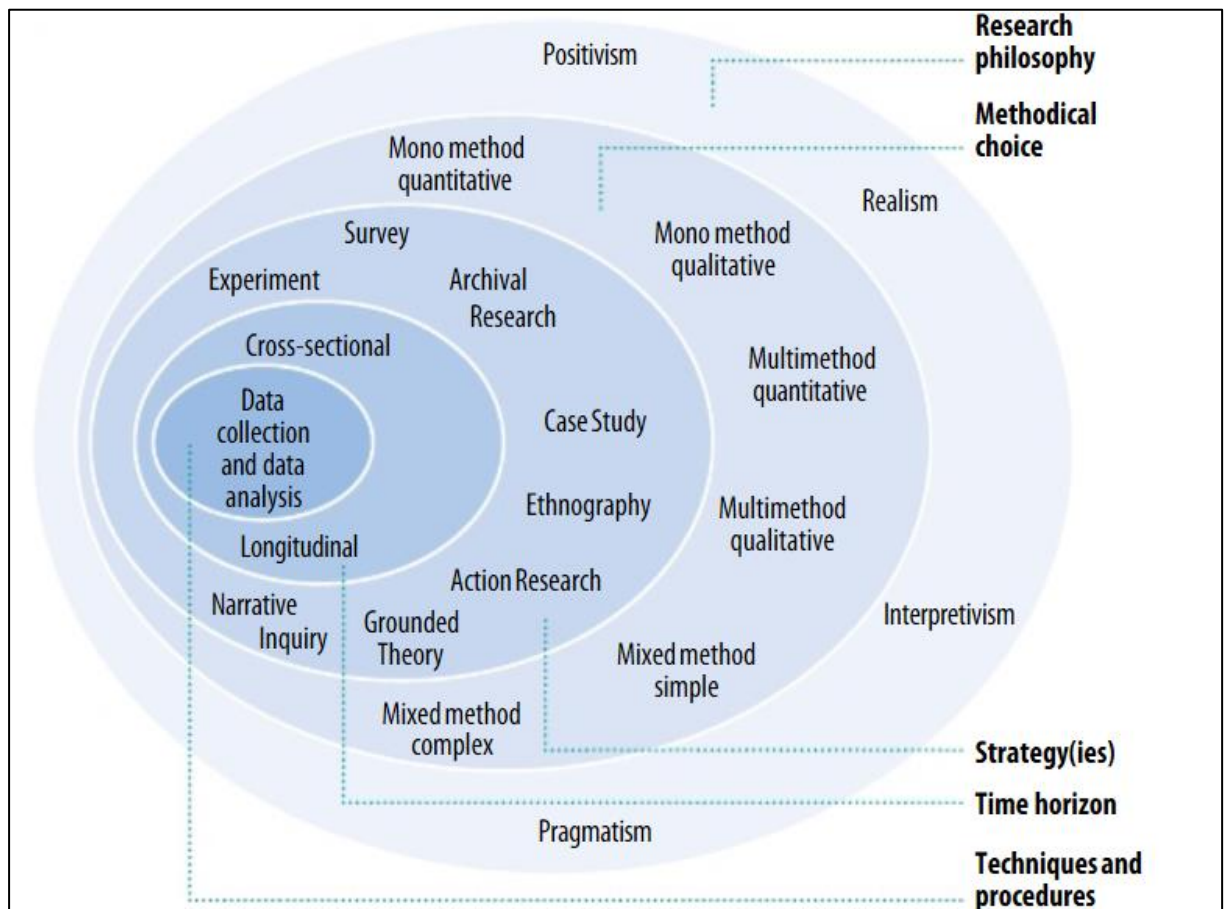
In the previous chapter, the literature review was presented. This chapter details the research design for this study. The research approach, methodology and strategy adopted to achieve the objectives of the study are also explained. The chapter further outlines the population for the study and sampling method used. In addition, the type of data and the data collection techniques used in this study are described. This is followed by a discussion of the data analysis procedures employed. Finally, the manner in which ethical issues were considered in this study is discussed. The following section describes the research design.

### **3.2 The research design**

Research design refers to the methods that have been utilised to collect data that will decisively answer an empirical research question (Weathington, Cunningham & Pittenger, 2012). Saunders, Lewis and Thornhill (2012) defined a research design as the general plan of how the research question of the study will be answered. According to Myers (2013), the main purpose of a research design is to provide a roadmap of the whole research project, and should therefore include the philosophical assumptions, research methods, data collection methods, data analysis methods, and the writing of the report. Saunders *et al.* (2012) explained that a research design contains clear objectives that have been derived from research questions, specifies sources from which the data was collected and analysed, as well as ethical issues that were encountered.

According to Saunders and Tosey (2012/2013), the selection of the technique or techniques utilised to obtain data, as well as procedures to analyse data, represents only the final decision about the overall research design. Figure 3.1 below, metaphored the research 'onion' by Saunders and Tosey (2012/2013),

illustrates the various elements of a research design that need to be considered before data collection and analysis techniques can be selected.



*Figure 3.1 The research 'onion'*

*Source: Saunders and Tosey (2012/2013:59)*

The research 'onion' demonstrates, in a chronological order, how a philosophical position, methodology and research strategy should be selected, as well as the time horizon for the study. All these layers pave the way for and inform the data collection and analysis techniques that are ultimately chosen, which forms the inner core of the research 'onion'. The details are discussed in the following sections.

### 3.2.1 Philosophical positions

Peeling the first layer of the research 'onion', the philosophical positions or worldviews that may be adopted for the study are broadly classified into

positivism, realism, interpretivism and pragmatism (Saunders & Tosey, 2012/2013). The positivist adopts what is often referred to as a scientific method, in order to propose and test theories with data which is highly structured and usually measurable. Furthermore, the research is not influenced by the researcher's values (De Vos, Strydom, Fouché & Delport, 2011). A revised positivist worldview that has emerged recently is called post-positivism, which suggests that there is no single reality when investigating human behaviour, and that multiple approaches should be utilised to conduct the research (Creswell, 2014).

Similar to positivism, realism is a philosophical position associated with scientific enquiry and assumes that reality exists independent of the researcher's influence (Saunders & Tosey, 2012/2013). Data collection techniques and analysis procedures employed by a realist philosopher may be either quantitative or qualitative (or both) (Saunders & Tosey, 2012/2013). Philosophy of interpretivism is where the researcher aims to collect rich insights based on the experiences of study participants, instead of generalising the findings to the entire population (Saunders & Tosey, 2012/2013). Unlike the positivist, the interpretivist researcher considers research to be relevant and worthwhile to the phenomenon under study for the particular period during which the investigation is being conducted (Saunders & Tosey, 2012/2013). The researcher subjectively interprets the data, which is most often in the text format, in order to derive meaning (De Vos *et al.*, 2011).

With regard to the philosophical position of pragmatism, the importance of research is based on the findings that provide applicable solutions to the problem being investigated (Creswell, 2013). Pragmatic researchers employ mixed methods and are at liberty to use both quantitative and qualitative methodologies in their studies (Creswell, 2014). This study adopted an interpretivism position, which was deemed to be most appropriate because the study aims to gain rich insight and knowledge on how to mitigate fraud in medical schemes in the South African context. The next section discusses the research approach.

### 3.2.2 Research approach

Saunders *et al.* (2012) added another layer after the philosophical position, namely the research approach, which may be either deductive, inductive or abductive, as presented in Table 3.1 below. The research approach, which is also known as the logic of research, refers to “whether the research logic moves from the general to the specific or vice versa” (Collis & Hussey, 2014:3). According to Saunders *et al.* (2012), knowledge of the research approaches assists the researcher to make an informed decision about the research design and research strategies that will be best suited to the study in question. In addition, these approaches enable the researcher to adapt the research design to cater for constraints.

**Table 3.1:** Research approaches: Deduction, induction and abduction

	<b>Deduction</b>	<b>Induction</b>	<b>Abduction</b>
<b>Logic</b>	In deductive inference, when the premises are true, the conclusion must also be true	In an inductive inference, known premises are used to generate untested conclusion	In an abductive inference, known premises are used to generate testable conclusions
<b>Generalisability</b>	Generalising from the general to the specific	Generalising from the specific to the general	Generalising from the interactions between the specific and the general
<b>Use of data</b>	Data collection is used to evaluate propositions or hypotheses related to an existing theory	Data collection is used to explore a phenomenon, identify themes and patterns and create a conceptual framework	Data collection is used to explore a phenomenon, identify themes and patterns, locate these in a conceptual framework and test this through subsequent data collection and so forth
<b>Theory</b>	Theory falsification or verification	Theory generation and building	Theory generation or modification; incorporating existing theory where appropriate, to build new theory or modify existing theory

Source: Saunders, Lewis and Thornhill (2012)

After consideration of the research approaches, the inductive approach was selected based on the nature of this study, which aimed to explore and identify themes and patterns in the data that have been gathered on how fraud can be mitigated in South African medical schemes. The following section details the methodology selected for the study.

### **3.2.3 Methodological choice**

The methods that can be chosen for conducting research are broadly categorised into quantitative, qualitative and mixed methods (Kumar, 2014). These methods are further explained in the following subsections.

#### **3.2.3.1 *Quantitative research method***

Quantitative research, which is usually associated with the deductive approach, aims to examine the relationship between variables, often incorporates controls to ensure validity of data, and mostly uses probability sampling techniques to ensure generalisability of the research findings (Saunders *et al.*, 2012). The purpose of quantitative research is to present a statement of objective facts, predictions, generalisations, and the establishment of universal law-like findings (Rule & John, 2011). Research strategies generally employed in a quantitative research design include experimental and survey research conducted using techniques that encompass questionnaires, structured interviews, or structured observations (Saunders *et al.*, 2012). According to Duignan (2014), the data associated with quantitative research methods provides a platform for the usage of statistical techniques.

#### **3.2.3.2 *Qualitative research method***

In contrast to quantitative research, qualitative research is based on the opinions and experiences of study participants, which cannot be deemed to lack subjectivity (Rule & John, 2011). An interpretive philosophy is usually adopted in qualitative research. However, similar to a quantitative research design, realists and pragmatists may also use this research method (Saunders

*et al.*, 2012). Qualitative research is generally inductive, and the researcher studies participants' meanings (Saunders *et al.*, 2012). According to Denzin and Lincoln (2013), the aim of a qualitative inquiry is to derive a more comprehensive understanding of the phenomenon under study. In qualitative research, non-probability sampling techniques are employed (Saunders *et al.*, 2012).

The researcher plays a major role in data collection and interpretation in qualitative studies (Corbin & Strauss, 2015). The primary materials that are utilised in the qualitative inquiry are varied and encompass the case study, personal experience, introspection, life story, interviews, artifacts, cultural texts, productions, and observational, historical, interactional and visual texts (Denzin & Lincoln, 2013).

#### 3.2.3.3 *Mixed methods*

According to Kumar (2014), mixed methods research is conducted through the utilisation of both qualitative and quantitative methodologies in one study, in order to circumvent the limitations of each method. Basic mixed methods identified by Creswell (2014) include convergent parallel, explanatory sequential and exploratory sequential mixed methods. These three mixed methods are described in the ensuing paragraph.

In the convergent parallel mixed method, both quantitative and qualitative data are collected at the same time, in order to thoroughly understand the problem under study (Creswell, 2014). The explanatory sequential mixed method first employs quantitative methods, followed by qualitative methods, in order to explain the findings (De Vos *et al.*, 2011). In contrast, Creswell (2014) stated that exploratory sequential mixed methods commence with exploratory qualitative methods, and then use quantitative methodologies. This type of mixed method is most beneficial if the phenomenon under study has not been thoroughly studied previously, as the results from the first stage of qualitative research could form the basis of the constructs to be tested in the quantitative stage (De Vos *et al.*, 2011).

For this study, a qualitative research method was considered to be most appropriate for achieving the aim of the study. This is due to the nature of the research objectives, which sought to gain insight and knowledge on the type of fraudulent activities committed against medical schemes in South Africa, and how this type of fraud could be mitigated. Available literature pertaining to the topic being studied in the South African context was also found to be limited. The following section discusses the research strategy for this study.

### **3.2.4 Research strategy**

Saunders *et al.* (2012) defined a research strategy as a plan on how a researcher will go about answering the research question at hand, and is regarded as the methodological link between the philosophy and subsequent choice of methods to collect and analyse data. A number of research strategies identified by Saunders *et al.* (2012) and Sekaran and Bougie (2013) include experiment, survey, observation, case studies, grounded theory, archival research, ethnography, narrative inquiry, action research and mixed methods. A case study strategy was selected for this study.

#### **3.2.4.1 Case study research strategy**

Dul and Hak (2008) defined case study research as a study in which one case or a small number of cases in their real-life context are selected, and scores obtained from these cases are analysed in a qualitative manner. According to Yin (2012), all case study research starts from the same compelling point, which is the aspiration to derive an up-close or in-depth understanding of a single or small number of cases in their real-life context. The rationale for conducting a case study is to obtain a complete picture of the entire situation, which requires examining the real-life example, thereby enabling the researcher to identify interactions among all the variables in their natural setting (Hair Jr, Celsi, Money, Samouel & Page, 2011). The closeness aims to produce an invaluable and deep understanding, resulting in new discoveries about real-world behaviour and its meaning (Yin, 2012). Therefore, the researcher collects



various qualitative data from observations, documents, interviews and audio-visual materials in case studies (Creswell, 2013:98).

According to Yin (2012), three main situations create relevant opportunities for utilising the case study as a research method. Firstly, it is determined by the kind of research question that the study aims to address, which can be of a descriptive or exploratory nature (Yin, 2012). Secondly, the case study strategy may be relevant in instances where the study method favours the collection of data in a natural setting, compared to relying on derived data (Yin, 2012). Thirdly, the case study method is utilised in conducting evaluations.

Rule and John (2011) categorised case studies according to their purposes, and indicated that case studies may be exploratory, descriptive, historical or explanatory. Exploratory case studies aim to investigate a situation or phenomenon that might not have been previously investigated, and which have no existing theories (Rule & John, 2011). On the other hand, Rule and John (2011) explained that descriptive case studies answer what and how questions, where the purpose is to develop a rich, thick description of a phenomenon, and may use both qualitative and quantitative information. Rule and John (2011) further explain that historical case studies aims to provide perspective of phenomenon as it develops and changes over time by looking back from the present position and identify themes or patterns from the specific history of the case; whilst explanatory case studies aim at developing causal explanations and seek to explain why and how events occurred or situations exist.

Three types of case studies identified by Creswell (2013:99), depending on the aim of the study, are a single instrumental case study, an intrinsic case study and a collective or multiple case study. In a single instrumental case study, the researcher selects one case, with the aim of focusing on the issue at hand (Creswell, 2013:99). An intrinsic case study selects the case for the research based on the unusual, unique attributes of the case (Creswell, 2013:295). In a collective case study, an issue is investigated in relation to multiple cases (Creswell, 2013:99).

A single instrumental case study, which is exploratory in nature, was chosen for the collection of data in this study. The aim was to gain an in-depth insight into the fraudulent activities perpetrated against medical schemes and how this risk could be managed, by gathering data from one medical scheme administrator selected as a case, instead of replicating a number of cases or generalising the findings. The single case study ensured that the study was more manageable (Rule & John, 2011). Collecting data from the study participants in their working environment enhanced the gathering of rich insights pertaining to fraud in the medical scheme industry (Cameron & Price, 2009). The medical scheme administrator was selected for the case study on the basis that it administers both open and closed medical schemes, which afforded the researcher an opportunity to gain a comprehensive picture of the fraud activities in the industry, and how these activities could be managed. Furthermore, the geographical location of the premises of the selected case was convenient for the researcher to conduct the study.

#### *3.2.4.2 Description of the selected case*

As mentioned in section 3.2.4.1, a case study strategy was chosen for the study to collect primary data, in order to achieve the research objectives. This data included the types of fraudulent activities committed against medical schemes and how the medical schemes in South Africa could manage fraud in claims. In 2014, there were 22 registered medical scheme administrators in South Africa, and their number decreased to 17 in 2015 (Council for Medical Schemes, 2014//2015; 2015/2016). One of these medical scheme administrators was chosen as a case study. The selected case is a company with its head office in South Africa, Gauteng province, and it is one of the top three medical scheme administrators in terms of market share. This is based on the number of beneficiaries administered as per the Council for Medical Schemes (2014/2015) annual report. The medical scheme administrators' market share in 2015 is shown in Table 3.2 below.

**Table 3.2:** Medical scheme administrators' market share

<b>Target market share- All schemes</b>	<b>2010 %</b>	<b>2011 %</b>	<b>2012 %</b>	<b>2013 %</b>	<b>2014 %</b>	<b>2015 %</b>	<b>% change: 2010-2015</b>
Discovery Health (Pty) Ltd	28.9	30.1	25.7	26.3	27.2	28.3	-2.1
Medscheme Holdings (Pty) Ltd	14.6	12.2	26.7	27.4	27.2	26.7	82.9
Metropolitan Health Corporate (Pty) Ltd	27.0	29.8	25.5	25.5	25.3	24.7	-8.8
Other							-9.6
Self-administered	9.8	10.2	9.2	8.5	6.6	6.7	-31.6
Momentum Medical Scheme Administrators (Pty) Ltd	6.0	4.5	3.8	3.1	2.9	3.0	-50.0
V Med Administrators (Pty) Ltd	3.4	2.7	1.9	1.6	1.2	1.2	-64.7
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	

Source: Council for Medical Schemes (2015/2016:194)

The following section explains the time horizon over which the study was conducted.

### **3.2.5 Time horizon for the study**

The time horizon over which a study is conducted can be either longitudinal or cross-sectional (Sunders *et al.*, 2012). Longitudinal studies are conducted over a period of time, where the same population is investigated (Beins, 2013). In contrast, a cross-sectional study is conducted once-off and is usually associated with surveys and case studies (Sunders & Tosey, 2012/2013). For this study, the time horizon was cross-sectional, as data was collected at a single point in time, due to limited time and resources. The next section describes the population for this study.

### **3.2.6 Population**

McDaniel and Gates (2013) defined a population or universe as all the people or entities that will give information to advance the objectives of the research. The population for this study was all the employees at the medical scheme administrator selected as a case study, as described in section 3.2.4.2. However, the population excluded employees who were not tasked with fraud management activities in their daily work functions.

The following section explain the sampling techniques and sample used for this study.

### **3.2.7 Sampling techniques**

A sample is a subset of people or entities selected from the population intended to represent the entire population or the universe (De Vos *et al.*, 2011). There are two main types of sampling techniques, namely probability and non-probability sampling (Wiid & Digginess, 2013). Probability sampling techniques are mainly categorised into simple, stratified, complex, systematic, double and cluster sampling techniques (Cooper & Schindler, 2014). Non-probability sampling techniques, which are characterised by smaller sample sizes, are mainly used by qualitative researchers, with the aim of gaining a deeper understanding from study participants (Cooper & Schindler, 2014:167). Types of non-probability sampling techniques identified by De Vos *et al.* (2011) are purposive sampling, theoretical sampling, deviant case sampling, sequential sampling, snowball sampling, key informant sampling and volunteer sampling.

A purposive non-probability sampling method was used to select the study participants from the selected case in this study. According to Rule and John (2011), a purposive sampling method allows the researcher to choose participants who can shed more light, with requisite knowledge, interest and experience with the case; and who can provide most valuable insightful information with no intention of selecting a representative sample. A purposive sampling method was considered appropriate for selecting participants for the

study. In line with purposive sampling, the participants were selected on the basis that the knowledge and insight they provided would advance the purpose of the study.

### 3.2.7.1 *Sample for the study*

In order to understand the structure of the company, an organogram of the company was discussed with the gatekeeper, who is the senior manager in the clinical risk management department. In consultation with the gatekeeper, the study participants were purposively selected according to their function, and included clinical risk management and forensics. These departments were important because they advanced the purpose of the study, since more insight and knowledge was provided due to their exposure to fraud-related activities in their daily functions.

The selection criteria also ensured that participants with different areas of expertise were covered, and included, inter alia: hospital services, pathology, intermediary (brokers), banking, nursing, analytics, surveillance, probes, ambulance services, healthcare fraud, pharmacy and undercover investigation. Data was gathered from study participants until no new categories emerged from the interviews, as recommended by Creswell (2014). Saturation of the data was reached after the thirteenth interview. However, the researcher interviewed two more study participants because meetings had already been scheduled with them. At the end of the interview process, a total of 15 study participants had been interviewed across the aforementioned departments, as shown in Table 3.3 below.

**Table 3.3:** Departmental matrix of the study participants

Department	Clinical Risk Management	Forensics
Senior management	1	1
Middle management	1	1
Specialists	3	8

Source: Author

In the next section, data collection techniques employed in the study are discussed.

### **3.2.8 Data collection**

Two types of data are used in research studies, namely primary and secondary data sources (Wiid & Digginess, 2013). According to Wiid and Digginess (2013), primary data is data that has not been collected previously, and is gathered with the aim of addressing the specific research problem or objective of the study. In contrast, the secondary data entails information that is already in existence and may assist in reaching the objective of the study (McDaniel Jr & Gates, 2013). The primary data collection methods commonly employed in qualitative research are observations, interviews, document analysis and audio-visual materials (Creswell, 2014). Interviews may either be conducted through a focus group, where data is collected from a group of people at the same time (Myers, 2013:252), or on an individual basis, where the researcher gathers data from one study participant at a time (Wiid & Digginess, 2013). There are three basic types of interviews, namely structured interviews, semi-structured interviews and unstructured interviews (Myers, 2013).

#### **3.2.8.1 Interview questions**

Beins (2013) distinguished between two types of questions based on the response structure, namely open-ended questions and closed-ended questions. Open-ended questions permit the participant to provide an answer without pre-determined responses. Therefore, the study participant, without limitations, generates the answer (Beins, 2013). Thus, in order to identify the fraudulent activities perpetrated against South African medical schemes, as well as strategies to mitigate this crime, open-ended questions were included in the interview schedule. These questions were based on the steps of the risk management process, which include risk identification, evaluation, control, financing and monitoring (Young, 2014). Saunders *et al.* (2012) purported that open-ended questions are widely utilised for in-depth and semi-structured interviews, and are useful if the researcher is unsure of the response, such as

in exploratory research. The open-ended questions also allowed for probing and for the participant to give information freely, without being restricted to specific responses, as in closed-ended questions. These questions also allowed rich insights and knowledge to be acquired from the research participants. Please refer to Appendix A for the interview schedule that guided the researcher during the interviews.

#### 3.2.8.2 *Pilot testing*

De Vos *et al.* (2011) emphasised the importance of conducting a pilot study, irrespective of whether the study is quantitative or qualitative. As recommended by Saunders *et al.* (2012), an expert was initially consulted in order to evaluate the structure, content and suitability of the questions. The relevant suggestions from the expert were incorporated into the questions before a further test was performed with two other experts occupying senior management positions at the scheme administrator selected for this study. After the pilot testing was conducted with two more experts, their propositions were taken into consideration, ambiguous questions were clarified, duplicate questions were removed, and additional questions were included to cater for omitted topics, in order to create the final version of the interview schedule that was used for the study.

#### 3.2.8.3 *Semi-structured interviews*

For this study, semi-structured interviews were viewed as superior to other interview types, and were thus selected as a data collection method. According to Polonsky and Waller (2011), semi-structured interviews are organised by researchers, with the aim of covering a range of questions which are relevant to the topic at hand, by utilising mainly open-ended questions. Furthermore, a semi-structured interview is the type of interview that uses the best of both structured and unstructured interviews, as it gives some structure, while at the same time allowing for some improvisation. This gives the interviewee the opportunity to add important insights as they arise during the course of the conversation (Myers, 2013).

#### 3.2.8.4 *Preparatory phase*

A participant information sheet was provided to the selected study participants, in order to explain the purpose of the study and what was expected in the interviews. Individual face-to-face interviews were scheduled with each participant. An appointment was made with each participant, with the assistance of the gatekeeper, for a period of 60 minutes at a convenient time and place.

#### 3.2.8.5 *Interview phase*

Interviews were conducted in the medical scheme administrator's various boardrooms, in order to ensure that no interruptions occurred during the course of primary data collection. The researcher greeted the participant and introduced herself before the interview commenced. Prior to commencing each interview, the participants were also allowed to ask questions to clarify any issues. Written consent was also obtained for conducting audio-recorded interviews with each participant. Data was collected in the month of May 2016, guided by the interview schedule. An audio- recorder was utilised as a tool to record the interviews, and the researcher also took notes. During the interview, the researcher was able to probe and clarify any ambiguous responses. Once the interview was completed, the researcher closed the interview and thanked the participant for agreeing to be part of the study. The duration of each interview ranged from 7 to 64 minutes.

#### 3.2.8.6 *Data triangulation*

The senior manager indicated that an anonymous tip-off line, which is managed by an independent company, is utilised for the reporting of fraudulent activities perpetrated against medical schemes under the management of the medical scheme administration company. In addition, a fraud policy is in place to guide fraud mitigation activities. Furthermore, the company has a fraud detection system to identify fraudulent claims. The researcher was taken on a walk by the senior manager, who showed her the team which manages the fraud mitigation



activities in the medical administration company. It was observed that the personnel managing fraud had various requisite qualifications and skills to manage fraud. Internally, annual and monthly reports are generated to classify and track the type of fraud which is encountered. Furthermore, the company is regularly invited to stakeholder group (for instance, doctors, hospitals) conferences, in order to present on fraud experiences of medical schemes, thereby increasing awareness. The company also attended multi-insurers' forums, which comprise of medical schemes and short-term insurers, to discuss matters related to fraud.

The following section describes the data analysis procedures used in this study.

### **3.2.9 Data analysis**

According to Creswell (2014), analysis of qualitative data involves breaking down text or image data and re-assembling it to derive meaningful findings. Thematic data analysis was employed in this study. Thematic data analysis involves the coding of data, whereby the researcher absorbs data to derive "meaning, connections and insights" (Polonsky & Waller, 2011:160). According to Creswell (2013:190), data analysis in qualitative case studies starts with creating and organising data. Vaismoradi, Turunen and Bondas (2013) posited that the researcher should read to become familiar with collected data.

Thereafter, codes should be generated from the data across all interview transcripts (Vaismoradi *et al.*, 2013). In addition, codes should be categorised to form common themes and label these themes (Vaismoradi *et al.*, 2013). Themes form the basis for the main research findings (Creswell, 2014:199). In conclusion, an analysis report should be produced in relation to the research questions of the study (Vaismoradi *et al.*, 2013). Creswell (2014) indicated that qualitative data could be interpreted by relating data from the literature review to the research findings. Furthermore, Creswell (2013:191) stated that data in case studies could be presented in the form of tables and figures.

The researcher followed the data analysis spiral recommended by Creswell (2013), which involves first organising the data, followed by reading and memoing. Thereafter, the data is described and classified into codes and themes, and then interpreted. The final step involves representing and visualising the data.

**Step 1:** Firstly, audio-recorded data collected through interviews was saved on computer. Data was transcribed from audio to text by the transcriber. In order to protect the confidentiality of the company selected as a case, as well as individual study participants, the transcriber signed a confidentiality agreement form (see Appendix D). Transcribed data was reviewed to delete any information that could identify the study participants or the company, in order to ensure confidentiality. Individual transcripts were uploaded onto ATLAS.ti, a qualitative data analysis software program. The software allocated each transcript a label, for instance P1, which represents primary document one.

**Step 2:** The researcher read the transcripts in conjunction with the field notes, in order to familiarise herself with the data, and initial codes were recorded on paper.

**Step 3:** After immersing herself in the data, the researcher identified codes with the aid of ATLAS.ti. Similar codes were categorised to form themes, which are called families in the Atlas.ti program.

**Step 4:** Identified themes were interpreted with the aid of existing literature.

**Step 5:** As suggested by Creswell (2014), information was then summarised into meaningful findings, in order to present the research findings in thick descriptions, and quotes from study participants, in order to afford them a voice. The results were also presented with the aid of thematic maps derived from ATLAS.ti software. Figures and tables

were used to present the findings, so as to enable the reader to visualise the results of the study.

The next section discusses measures taken to ensure the trustworthiness of the study.

### **3.3 Measures to ensure trustworthiness**

Rule and John (2011) highlighted the fact that Guba (1981) suggested the concept of trustworthiness in qualitative research as an alternative measure of quality, instead of validity and reliability, which promotes values that include scholarly rigour, transparency and professional ethics. Creswell (2013) mentioned that Guba (1985) recommended that the trustworthiness of qualitative studies is achieved by focusing on the study's transferability, credibility, dependability, authenticity and confirmability. Rule and John (2011:107) also pointed out that "full disclosure of the research process; including limitations, researcher positionality and ethical requirements, helps to ensure the dependability and confirmability of a case study".

The eight strategies to ensure credibility and trustworthiness of research findings, as proposed by Creswell (2014:201-202), are as follows:

- Spending a lengthy time in the field,
- Triangulation of various data sources,
- Member checking aimed at validating research findings with study participants,
- Provision of thick descriptors of themes in the findings,
- Presenting findings of negative cases,
- Peer review to ensure accuracy of the findings,
- Describing the researcher's bias, and
- Auditing the entire research project.

Creswell (2013:253) suggested that a minimum of two of these strategies should be applied in qualitative research.

In order to ensure the credibility of this study, the research participants were provided with an information sheet introducing the researcher, as well as explaining the purpose of the study and what their participation entailed. Interviews were conducted by the researcher to enhance the credibility of the findings. As recommended by Creswell (2013), detailed and thick descriptions were provided on the themes, thereby permitting the audience to evaluate the issue of transferability and allowing for external validity. Audio-recorded interviews, transcripts and field notes were stored to enhance the auditability of the research findings. Recording the interviews and transcribing the recordings boosted the auditability of the findings (Creswell, 2013). The research process, limitations and ethical requirements were fully explained, in order to enhance the dependability and confirmability of the study. Lastly, the entire research project was subjected to a review by a critical reader.

In the following section, the ethical issues considered in this study are explained.

### **3.4 Ethical considerations**

Rule and John (2011) purported that conducting research in an ethically sound manner enhances the quality of research and contributes to its trustworthiness. Ethical issues that were considered whilst conducting this study are discussed below.

#### **3.4.1 Protection from harm**

According to Polonsky and Waller (2011), the researcher should ensure that the participants are not harmed physically, emotionally or psychologically, which may be manifested in the form of visible physical injuries, resentment, anxiety, embarrassment or the reliving of unpleasant memories. In this study, data was collected in such a way that the participants were not harmed at all.

### **3.4.2 Maintenance of privacy**

The research results were handled in such a manner that they could not be traced or linked to individual participants. Once the interview transcripts had been analysed, the results were reported by assigning serial names to participants, such as P1, P2 etc., as allocated by the ATLAS.ti software.

### **3.4.3 Coercion**

The participants were not forced, intimidated or pressured in any way to participate in the study. Informed written consent was requested and obtained from each participant. The study participants were also informed that their participation was on a voluntary basis.

### **3.4.4 Informed consent**

The research participants should be fully informed of the purpose and methods of the research, as well as the potential use of the results (Layder, 2013). Moreover, Layder (2013) stated that participants should be informed of what participation entails, and any risk should be communicated. For this study, ethical clearance was obtained from the university before data was collected from study participants (see Appendix B for the ethical clearance certificate). Consent to gain permission to conduct a case study was also requested through a written letter to the chief executive officer at the selected medical scheme administrator. The letter detailed the topic, purpose, objectives and methodology of the study. The manner in which the company could assist in the study was also explained in the letter. Written consent was granted by the company, and a gatekeeper (a senior manager at the medical scheme administrator) was allocated to the researcher as a contact person for the duration of the study. In addition, written consent was obtained from each participant before the interview was conducted (see Appendix C).

The purpose and objectives of the research were explained to the participants. The individual conducting the research was also introduced to the participants.

Furthermore, details regarding the interview, where the participant would have to answer questions, and the duration thereof, were communicated to the participants.

#### **3.4.5 Confidentiality**

Confidentiality involves protecting the identity of the participants in the study and ensuring that all identifiable data remains with the researcher and is not divulged in the report (Polonsky & Waller, 2011). The findings were made confidential and none were associated with a specific participant. Personal data comprising of the names and contact details of participants was also stored in a different location from the research data, and participants were allocated serial numbers, as recommended by Ritchie, Lewis, Nicholls and Ormston (2014), in order to ensure that the confidentiality of study participants was protected. The transcriber of data from audio to text also signed a confidentiality agreement form (see Appendix D).

#### **3.4.6 Beneficence**

The principle of beneficence, which relates to the view that the study participants should benefit from the research that is being undertaken (University of South Africa, 2014:10), was considered during the study. Once the research was completed and vetted by the university, the results of the study were shared with the scheme administrator, which was chosen as a case study, for the benefit of the company. Lessons learned and the results of the study would consequently assist in the reduction of the amount expended on fraudulent claims, thereby increasing the reserves and improving the financial viability of medical schemes. In the following section, the methodological issues and limitations of the study are discussed.

### **3.5 Methodological issues and limitations**

Qualitative research methodology was adopted in the study, and one medical scheme administrator was selected, in order to collect data from only 15

purposively selected participants. This limited the generalisability of the research findings to all South African medical schemes. The aim of the study was to gain an in-depth understanding of fraud in medical schemes, with no intention to generalise the findings. The data collection method employed, namely interviews, may intimidate the study participants. However, the researcher built a rapport with each study participant to ensure that there was a conducive atmosphere before the audio-recorded interview commenced.

### **3.6 Conclusion**

This chapter outlined the theory underpinning research designs and methodology. The manner in which the research design and methodology were applied to the study was detailed. An inductive approach was adopted, as the study aimed to explore how medical schemes can mitigate fraud risk. Therefore, a qualitative research methodology was followed. A case study strategy was chosen for this study, and one medical scheme administrator was selected as a case. Data was collected from the purposively selected sample. The data analysis procedures employed were also explained in this chapter. Lastly, the manner in which ethical issues were considered while conducting the study was also discussed.

The next chapter discusses the findings and interprets the results of the study.

## **CHAPTER 4: PRESENTATION AND DISCUSSION OF FINDINGS**

### **4.1 Introduction**

In the previous chapter, the research methodology which was used to answer the research questions was explained. This chapter presents the findings of the study, based on the following objectives, namely to:

- Identify the types of fraudulent activities perpetrated against South African medical schemes; and
- Examine strategies to mitigate fraud in South African medical scheme claims.

### **4.2 Profile of the participants**

There were 15 participants from both genders, comprising of 10 females and five males. They occupied specialist or managerial positions at the selected medical scheme administrator. All the study participants were involved in fraud management activities in their daily duties. Five study participants worked in the clinical risk management department, whilst 10 worked in the forensic division. The information gathered from the study participants provided a broad and rich perspective on fraud in medical scheme claims, as participants with different areas of expertise, including hospital services, pathology, brokers, banking, nursing, analytics, surveillance, probes, ambulance services, healthcare fraud, pharmacy and undercover investigation, were interviewed.

### **4.3 Central themes**

A thematic approach was used in the study, where data was categorised into themes and sub-themes. There were two main themes, and the themes and subthemes are presented in Table 4.1 below.



**Table 4.1:** Themes and sub-themes

Themes	Sub-themes
<b>Identification of risks</b>	<ul style="list-style-type: none"> <li>➤ Service provider fraud</li> <li>➤ Medical scheme member fraud</li> <li>➤ Employee fraud</li> <li>➤ Broker fraud</li> <li>➤ Collusion</li> <li>➤ Syndicated fraud</li> </ul>
<b>Strategies to mitigate fraud in medical scheme claims</b>	<ul style="list-style-type: none"> <li>➤ Internal control measures</li> <li>➤ Reporting of fraud</li> <li>➤ Stakeholder collaboration</li> </ul>

Source: Author

The central question in this study was the following: How can South African medical schemes mitigate fraud in claims? The presentation and analysis of the findings follows in the next sections. The findings are reported with supporting quotes from the interview transcripts. Table 4.2 below illustrates the reference system used to report participants' quotes from the interview transcripts.

**Table 4.2:** Reference system to report quotes from interview transcripts

Example	4:3
The number <b>4</b> represents primary document four on ATLAS.ti	
The number <b>3</b> represents quotation number three in primary document 4	

Source: Author

#### **4.4 Types of fraudulent activities committed against medical schemes**

The first research question sought to determine the types of fraudulent activities that were perpetrated against South African medical schemes. These were:

- Service provider fraud,
- Medical scheme member fraud
- Employee fraud
- Broker fraud
- Collusion
- Syndicated fraud

The thematic analysis of the six subthemes in relation to fraudulent activities committed against medical schemes is presented in the following subsections. The findings regarding fraudulent activities perpetrated against medical schemes were categorised into service provider fraud, medical scheme member fraud, broker fraud, syndicated fraud, and collusion between medical scheme members and service providers.

##### **4.4.1 Service provider fraud**

One of the participants highlighted that the service providers act differently across various medical schemes, thereby implying that certain providers deliberately target a specific medical scheme for fraud. Service providers were found to be committing fraud utilising various methods. These methods involved false claims, irregular billing of codes, excessive billing for products and services, provision of unnecessary medical services, duplicate claims, excluded products and benefits claimed as covered benefits, and claims from unlicensed service providers.

#### 4.4.1.1 False claims

The most reported form of service provider fraud by the study participants was false claims, which were submitted to the medical scheme for services not rendered or products not supplied to members. Similarly, Norjé and Hoffmann (2014, 2015a, 2016) found that fraudulent activities committed by South African healthcare professionals were mostly related to billing for services not rendered. Some of the participants were quoted as saying the following:

*...they are also claiming for services not rendered, it could be, okay, that medicine is one of them, but they are also claiming for certain procedures not performed (4:3).*

*Then we found out the physio put in false claims (9:45).*

*Then there is also the fact that some providers will claim for things that they didn't do (2:2).*

*...claiming for meds [medicines] that have not actually been dispensed (6:4).*

The participants further indicated that some of the doctors who owned ambulance service companies falsified claims, in order to appear as if the doctor treated the patient in the ambulance, whereas the patient was actually treated in the doctor's consultation rooms. The doctors also misrepresented claims to make it seem as if care was provided by them in the ambulance, instead of by the ambulance staff during the transportation of the patient to the hospital. One of the participants was quoted as saying:

*So he would [the general practitioner] give the patient something like that, so the level of care shoots up to the highest level of care. He would then hand the patient over to the lowest level of care staff, to Basic Life Support staff. Then he would insinuate that he was on the ambulance, by writing his name on the PRF, even though he wasn't there (8:7).*

This shows that the General Practitioner (GP) is charging for attending to the patient in the ambulance, when he was not available. The main reason for this is that patients are charged a lot for being treated in emergencies, such as in ambulances. It can be noted that false claims are associated with claiming for services not rendered, procedures not performed, and medicines not dispensed.

#### 4.4.1.2 *Irregular billing of codes*

Coding irregularities were reported, whereby service providers up-code (claim for a code of a higher value than the actual service or treatment provided). The definition of up-coding in this study is similar to the one advanced by Rashidian *et al.* (2012) as earlier stated in subsection 2.4.5.

Furthermore, codes were manipulated by billing for extra codes (code padding) and through the unbundling of codes (billing for several codes instead of one inclusive code), in order to defraud medical schemes. This is expressed in the following quotes by participants:

*So all types of fraud that I have worked with in the health sector are mainly to do with coding. Providers use billing codes that are not the right codes to use for the specific procedure or consultation, and this is all according to the DPM, which is the Doctors Billing Manual, so I must set it up and we work according to that (7:1).*

*Providers that up-code...That use codes of higher value for a procedure similar in nature (6:1).*

There are instances where service providers routinely charge for certain procedures for every patient who was treated, irrespective of the service that was actually rendered. This is highlighted in the following participant's quote:

*Uhm, what another chiropractor was doing is, he had a standard bundle of codes which he would submit for every single patient. So even though he might*

*do x, y, z and bill for x, y, z on this patient, if he was only doing x on the other patient, he was still billing for x, y, z (8:16).*

Ambulance services also defrauded the medical schemes by billing for each patient, even though one ambulance was used to transport multiple patients.

*If they take two patients, they will pay 100% for one patient, 75% for the second patient, 50% for the third patient, and we won't pay for any patients after that...So they would take two or three, sometimes more patients, depending on their injuries, and they would bill us 100% for each patient (8:3).*

Similar to the findings of this study, irregular billing of codes was also reported in the study conducted by Bauder *et al.* (2017). The findings indicate that irregular billing of codes occurs amongst healthcare service providers, in order to maximise the amount of funds payable by medical schemes for healthcare claims. This type of fraud is committed by either charging for extra codes (code padding) for services not rendered, billing for a higher code than the service provided, or by upgrading the level of care.

#### **4.4.1.3 Excessive billing for services and products**

Excessive billing for services and products was found in cases where, for instance, service providers charged for excessive time. A physiotherapist was found to be billing excessive time for services rendered to patients, as well as for services not rendered. This is explained in the following participant's quote:

*One physiotherapist was found to be booking for 45 minutes a session, but he was only staying 15 minutes, and then he was saying that he was travelling up to 200 kilometres. For example, one subject, or one patient, was in Vereeniging - he never even went to them, but yet he still billed us (5:2).*

At times, providers supplied members with cheap products, but claimed for more expensive ones. This is articulated in the following participant's quote:

*Okay, from my point of view, certain providers commit fraud through dispensing cheap medicine and claiming for more expensive medicine (4:45).*

Ambulance services also defrauded the medical scheme by billing for waiting periods that were not medically necessary.

*Uhm, otherwise they send an ambulance from the other side of Jo'burg to here, and then they bill us for the whole long response as well. So we allow per kilometre to a scene, it must be close, uhm, then they will bill us for the time that they actually spent on the scene. So if a person isn't injured or they are only slightly injured, but they are walking around, and they want to wait for the tow truck to take their car, and they want to wait for the police and they want to wait for this one and that one (8:5).*

Some providers were not adhering to specific billing arrangements signed with the medical scheme, as explained in the following participant's quote:

*I am busy with ophthalmology at the moment. So xxxx (specific medical scheme) has an agreement with some ophthalmologists. They signed a contract saying that they will only bill cost price for an intraocular lens, but they are not billing cost price. So I work out what the difference is between the cost price and the amount that they are billing, and we need to get that money back, because that is money that is not supposed to go to them (7:2).*

Similar to the findings of this study, fraud relating to excessive billing for healthcare services and products was also reported by Flynn (2016) and Abdallah *et al.* (2016). Unlike previous studies (Flynn, 2016; Thornton *et al.*, 2015), this study found that service providers sometimes failed to bill according to the agreement, where a specific network is in place to standardise costs for healthcare services with a specific group of healthcare providers.

#### **4.4.1.4 Provision of unnecessary medical services**

Medical scheme members are sometimes provided with a service that is not medically indicated, or a healthcare service is rendered that is over and above

what is required. This type of fraud is explained in the following participant's quote:

*So, for example, at a rugby match, if a high school student was heavily tackled, and he was complaining that he was a little bit sore..., the ILS would put up a drip, so he is no longer on Intermediate Life Support. This means that he is no longer a Basic Life Support patient because it is not within their scope of practice to manage a drip, and they would take him to hospital. So the question is now: Why did you put up a drip? If the patient is hemodynamically stable, their blood pressure is fine. There is no Advanced Life Support there to give an analgesic, so what is the purpose of putting up a drip? Because just for putting in that R12.00 Jelco and putting up a R15.00 vaculitre of fluid, they charge the medical aid another R1500.00 (8:28).*

One case that was investigated by the medical scheme administrator revealed that a doctor committed fraud by recruiting some members. The doctor gave these members a drug to induce medical symptoms. Thereafter, the member was admitted to the hospital for an invasive procedure, where a medically unnecessary pacemaker was inserted, simply for financial gain. This type of fraud is described in the following participant's quote:

*Okay, let me tell you about this. We found that this doctor was approaching members and giving a drug to them. The members, after obviously agreeing with the doctor to get paid a certain amount, excluding the hospital time and whatever, were physically operated on to get these pacemakers (13:9).*

This finding indicates that service providers sometimes provided unnecessary services, which concurs with the findings of Pande and Maas (2013). The impact of this practice could harm the patient. For instance, one physician blinded some psychiatric patients after performing unnecessary eye operations (Pande & Maas, 2013). Providers go to the extent of performing a surgical operation that is not necessary, merely for financial gain, which could put the health of the member at risk.

#### 4.4.1.5 Duplicate claims

Providers also submitted duplicate claims. There were instances reported where the same claim was billed to both the member and the medical scheme, resulting in the service provider receiving two payments for the same claim. The following quote explains how the duplicate billing for services occurs in pathology:

*It is fraud and sometimes they would do this. They will send the claim through to the medical aid and we will pay, and then they will send the member a statement, but because the public is generally not educated enough, they pay what is on the statement. Now you have providers sitting with these double payments. (2:31).*

Similar to the finding of this study, the submission of duplicate claims to defraud healthcare funders was reported by Thornton *et al.* (2013). It appears that duplicate claims are involved where service providers are paid twice for the same healthcare service or product provided to the medical scheme member. Funds for the same claim are sometimes received from both the medical scheme and the member.

#### 4.4.1.6 Excluded products and benefits claimed as covered benefits

Providers claim for services or products that the medical scheme covers, but sometimes supply excluded products to medical scheme members - for example, cash. The following quotes explain this type of fraud:

*So different providers are doing different stuff. For example, optometrists are supplying sunglasses and claiming for spectacles. So, each provider has a different type of fraud in his field (4:4).*

*Psychologists, physiotherapists, they give cash and they claim ten times for seeing the member ten times, whereas they gave cash (4:20).*



The finding of this study is similar to that of Flynn (2016) in Australia. Excluded products provided by service providers evidently include cash (money) and sunglasses, which are not related to the treatment of health ailments. This could put a strain on the financial resources of medical schemes.

#### *4.4.1.7 Unlicensed service providers*

The providers also defraud medical schemes by utilising unqualified and unregistered service providers. This finding is similar to that of Norjé and Hoffmann (2016), who reported that some healthcare service providers were misrepresenting their qualifications.

*...if it is a locum [stand-in], but most of the time the real doctor, if he is not there, he is aware of what is going on, and he uses the locum, the bogus doctor. We had a scam also in Pretoria a couple of years ago, where certain Nigerians were in practice together. Every day it was a different doctor, then we realized it is not a real doctor (4:48).*

Allowing unlicensed people to provide healthcare services and products could have dire consequences. The risk of unregistered entities providing healthcare services was highlighted in the South African public sector, after outsourcing psychiatric healthcare services to unregistered institutions resulted in 91 deaths (Office of the Health Ombud, 2017).

Fraudulent claims were submitted to medical schemes by service providers, according to Norjé and Hoffmann (2014, 2015a, 2015b, 2016). The aforementioned subsection reported the findings of this study, which demonstrated the ways in which service providers defraud medical schemes. Service providers were found to be committing fraud utilising various methods, as thematically depicted in Figure 4.1 below.

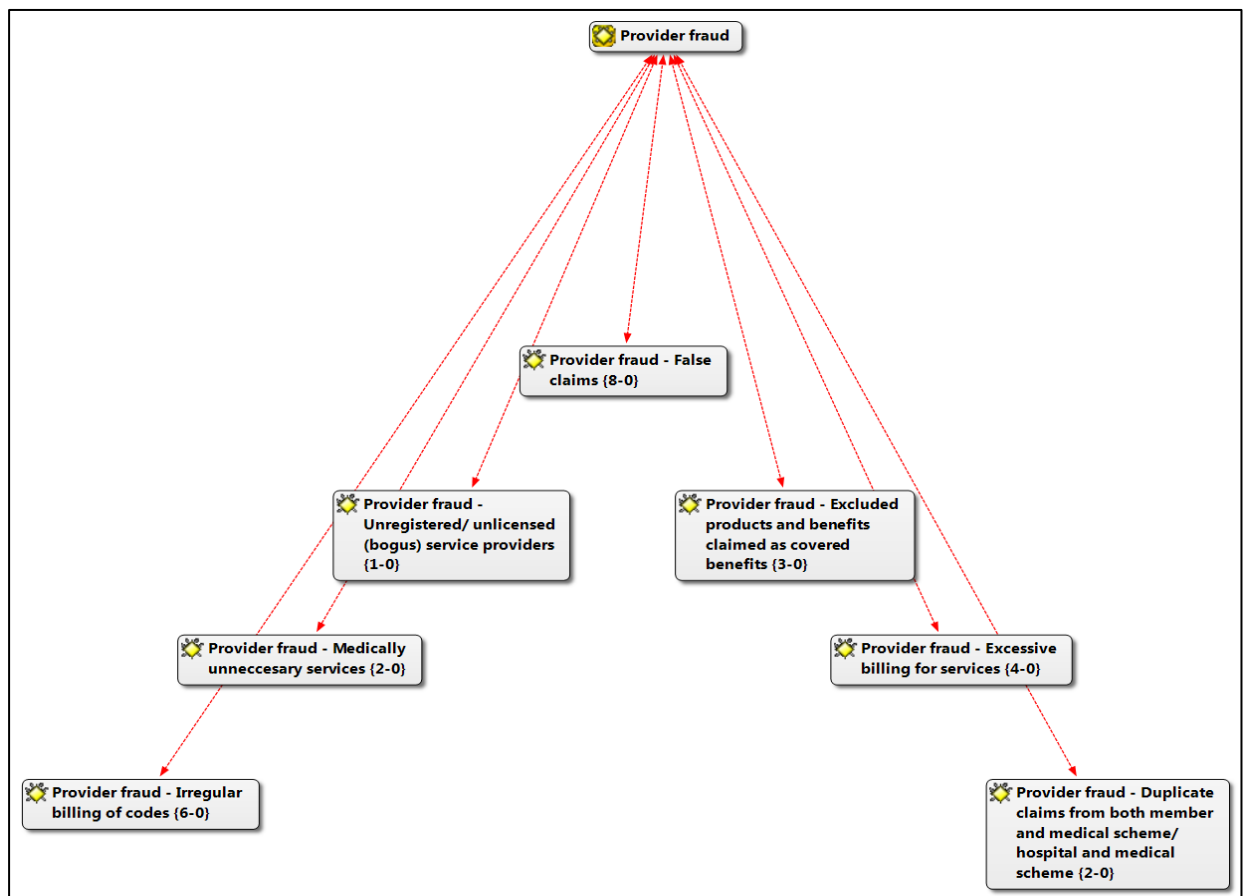


Figure 4.1 Types of service provider fraud

Source: Author

The following section presents the findings related to member fraud.

#### 4.4.2 Medical scheme member fraud

The study found that members defraud the scheme through card farming and by not disclosing pre-existing medical conditions at the application stage.

##### 4.4.2.1 Card farming

Members are defrauding medical schemes through card farming, which occurs when members share their medical scheme benefits with non-members. Debpuur *et al.* (2015) found a similar type of fraud occurring in the Ghanaian

healthcare system. Card farming is explained in the following participants' quotes:

*It could be what we call card farming, and this happens a lot more often than most people realise. Because it is hard to detect and most people who don't have medical aid then use another person's medical aid card. Most of the time there is no form of ID required. So people just assume that you are who you say you are, and if this is your card and they verify your date of birth and name, it's basically the check that they are doing (2:1).*

*Other types of fraud that we do see are what we refer to as card farming, it is a generalization, but we tend to see it more in female-owned policies. So where a lady has multiple children, but cannot afford to have them all on her medical aid, she will cover herself and one of the children, but service all of the kids under that one entity (14:31).*

*Then there are other forms of fraud when you're in hospital, where uncovered people get access to medical schemes. They share it. (15:13).*

This type of fraud is reported to be prevalent with female members, who cover only one child on their medical scheme. However, all the children then share the benefits of that one child who has cover.

#### **4.4.2.2 Non-disclosure of pre-existing medical conditions**

Before joining the scheme, at the application stage, members fail to disclose pre-existing medical conditions, in order to avoid having to wait for the medical scheme cover to commence.

*...a type of fraud is non-disclosure on medical information (3:1).*

*"So, okay as I said, I do strongly agree that fraud starts from when people join a medical scheme. Okay, so not necessarily just their personal details, but the person knows that they will be underwritten, so they don't disclose issues that they have (15:1).*

From the above findings, it appears that some medical scheme members are not honest about their health status when applying to join the medical scheme. The non-disclosure of medical conditions results in medical schemes not applying the appropriate waiting periods, which disadvantages schemes with regard to cost containment measures. Medical scheme members also deliberately share their health benefits with illegible members, thereby putting a strain on the medical scheme's financial resources.

The next section presents findings related to fraud by medical scheme employees.

#### **4.4.3 Employee fraud**

The study found that medical scheme administrator employees commit fraud by submitting false claims and changing the banking details, in order to channel the funds claimed for services rendered to members to their own account. This type of fraud is explained in the following participant's words:

*Then you get employees doing exactly the same thing as the other members. They will falsify scripts and claims, and then claim from the medical aid. (1:14).*

*...if you have the power to process claims, you can decide if you want to pay the money into your own account, or if you want to pay the member. Therefore, you change the banking details. You can do that on medical aid claims ...so when that amount is due, the employee can channel that into his own account and the member is none the wiser (1:15).*

The above findings of the study indicate that internal employees can defraud the medical scheme by submitting false claims or channelling the funds to their own account. To the researcher's knowledge, this type of fraud has not been reported in previous studies.

#### 4.4.4 Broker fraud

Brokers were found to be perpetrating fraud against medical schemes by falsifying medical scheme membership applications. This is done by creating a false application for a member or non-existent employer group to the medical scheme, in order to earn commission.

*We picked up that clients or brokers don't – or let's start, brokers will write false policies, okay (9:53).*

*From a health point of view, the brokers that submit business will falsify applications to get commission. They will, for instance, create employer groups and say that they are the broker representing Springbok Factory, which has three hundred employees, and that they are submitting medical aid applications for three hundred employees. However, the employees are fictitious, they do not exist. It's like ghost employees. The broker gets commission and then after a while, no premiums are received and the business goes bang or something like that (1:17).*

Brokers also discourage members' disclosure of pre-existing conditions, in order to avoid being underwritten and having waiting periods imposed.

*Then the second one we looked at is where a broker just writes a policy, but he doesn't disclose the medical history of the client, and just sends in the form. The client will say, for instance, that they have a heart problem, and the broker will just leave it out (9:43).*

To the researcher's knowledge, previous studies in support of the findings on broker fraud were not found. This may be attributed to the different type of healthcare system that exist in the South African context. The findings of this study indicate that brokers commit fraud by submitting applications for non-existing members, in order to earn commission. Furthermore, brokers also advise members not to disclose any pre-existing medical condition, which results in the medical scheme not applying waiting periods. The next section

present findings related to fraud committed through collusion between different parties.

#### **4.4.5 Collusion between members and service providers**

Collusion to defraud medical schemes occurs between service providers and medical scheme members, or between different service providers.

##### *4.4.5.1 Excluded benefits or non-medical items*

The member agrees with the service providers to access excluded services or non-medical items (for example, sunglasses and cash), by billing the medical scheme for covered benefits. This type of fraud is explained in the following participants' quotes:

*On the scheme, when they know what's not covered, members always find a way to get what's not covered to be covered. They work with doctors as well, because the doctors approve it, and then the member can say that they are going for a hernia repair (5:19).*

*AMC pots and condoms, as well as toiletries, are bought at the pharmacy, but at the end of the day, this accumulation of the improper use of your medical aid means that you are going to pay somewhere, somehow (2:21).*

##### *4.4.5.2 Cash plan-related fraud*

Furthermore, collusion occurs when the member tries to access the hospital cash plan insurance benefits offered by short-term insurers fraudulently. The healthy member is admitted to the hospital, and the medical scheme pays for the hospital, doctor and related accounts. The member shares the cash (ATM) with the provider once the claims have been paid by the insurance company. This type of fraud is described in the following participant's quote:

*In order to get that lump sum of cash paid out to them, they have to be sick, so they go to hospital for a number of days for no reason. We pay that bill, and*

*then again, you are not questioning someone who is going in with bronchitis. You end up paying for three days of whatever has happened in the hospital, and the member then comes out and submits a claim for a bulk payment of cash, which comes to them. They obviously do not see that it has had an impact on their health cover as well, because we have paid for a fruitless admission (14:17).*

#### **4.4.5.3    Hospital collusion with independent service providers**

In the case of members admitted to hospital, the hospitals collude with independent service providers by routinely providing access to the patient's details, and allowing these providers to claim from the medical scheme for services not rendered, or which are provided in-house by the hospital. This practice is most prevalent with physiotherapists, nurses and dieticians.

*Independent nurses walk around in a hospital billing us, in addition to the hospital staff, for what the nurse is supposed to do. You find it a lot in the maternity environment (11:13).*

*The problem is the dietician employed in their service. We should not be paying for this, and a big concern is the physiotherapist (11:8).*

*They [hospitals] give them stickers. Because when they come to the hospital, there must be some sort of agreement or collusion within these examples that I gave you now (11:7).*

Collusion in medical scheme claims appears to occur among service providers or between service providers and medical scheme members, in order to access uncovered benefits. Once the medical scheme member is admitted to the hospital, allied service providers find a way to submit false claims. Hospital cash plan-related fraud appears to be unique to the South African context, because it was not previously reported in other countries. In this type of fraud, the medical scheme and short-term insurers are defrauded simultaneously. The next section discusses syndicated fraud.

#### 4.4.6 Syndicated fraud

Syndicated fraud may include medical scheme members, brokers, service providers, medical scheme employees, and any other person.

A syndicate comprising only medical scheme members was reported by the participant. The members were targeting providers for cash.

*Syndicates, it all depends what syndicates, what type of syndicates, is it providers, members, you see...I had personal experience with providers giving cash, and we thought it was the providers, but at the end of the day, it was certain members that were targeting the providers in that area, by going to the providers and asking for cash. So in the end the members were the syndicate, and not the providers (4:29).*

Through identity theft, the study found that the syndicates defraud medical schemes by submitting a medical scheme application for an unsuspecting member. Thereafter, they submit fictitious claims, purporting that the provider of the health service has been paid, and the member therefore has to be reimbursed. The refund is channelled to the syndicate's bank account, details of which were given to the medical scheme. The bank account is then closed. Identity thieves who defraud healthcare insurance companies were also reported in Flynn's (2016) study.

*Then you get fraud syndicates targeting the medical aid itself. How it works, is that, they would commit identity theft, they would be in possession of copies of ID's, water and lights accounts, proof of employment, salary statements, all that you need to prove that you are the person that work there and this is your income. Then they would submit medical aid applications of people without their knowledge, but their identities are being used by the fraudsters. However, that is not where the fraud comes in. The fraud comes in after we have activated the membership, when the same fraudsters submit false claims, where they indicate that the practice has already been paid, and xxxx [name of medical scheme] must please pay the member. So the bank account that is loaded would be that of a fraudster, who submits the false claim on the false*



*membership into a once-off bank account. The minute they receive the money, they close the bank account and open up another one (1:16).*

*Then what we also found is that they would give the false details at the application stage and go to the doctor with those details, and then they will get the doctor to write out a claim and a note that they paid them, and then they come here and put in the claim with us. We pay it into their bank accounts, and they will do a lot of things like that, they will use either ten clients or they will put in a lot of claims on the one. And then as soon as they've got R10 000 – R20 000 they stop, they disappear (9:39).*

Sometimes, the main aim of syndicates is not to defraud medical schemes, but to build a health profile that allows them to commit fraud on other products that the member has - for instance, hospital cash plans and life policies.

*The client will take out a policy with another intent, okay. So what they will do is, they will take out a xxxx Health policy [medical scheme name] because there's for instance, cash-backs and stuff linked to that. Or what they will actually do, they will start taking out a health policy to build a profile with us, because then later they will take xxxxx, then they will take a life policy, and then they will take a [onother product], which is actually their focus, the [onother product]... they will pay for the medical aid, they will use the benefits, and they will give false details at that stage, details which they researched prior, like ID numbers, addresses, clients, the person's identity that they're taking, salary and things like that. Okay. But their main... they will use that false information, get all those things and get the [onother product]. And then they will misuse the [onother product] and don't pay back, and then we sit with the [company] or the bank will sit with the loss (9:54).*

The syndicated fraud that was reported in this study occurred between medical scheme members and service providers, which at times target specific medical schemes. The member and the provider come to an agreement to submit false claims to the medical schemes, and then share the cash.

*Okay, xxxx [medical scheme name] has got their own medical aid, but let's say, if our systems pick up that we receive a high volume of claims from certain*

*providers from xxxx [scheme name], then that would draw our attention to it. Because, why would a provider, it just makes sense logically that a provider would have an equal or a broad scope of patients all over. If it is only from xxxx [medical scheme name], it means that they are only targeting that group and it must be for a reason. (8:21).*

*So on two of the medical schemes we uncovered syndicates, with our forensics team. It was found that health care providers who do not service these members submit claims. It happens between the provider and the member, they share the cash, a portion of that is, it is obviously between them, but they literally are defrauding the system. It is referred to as an ATM'ing scheme, where you literally go to your healthcare provider to get cash, and that is quite prominent in our space (14:24).*

There are also cases that were uncovered where the syndicate is amongst family members. The mode of operation of this type of syndicate involves referral of the same patients from one service provider to another, in order to defraud medical schemes.

*Ja, and often we find that, you know, syndicates might not be as elaborate as we think they are, but sometimes it is family members, so you would see a GP and an optician with the same surname, and they have got a high propensity of the same members, and it almost feels like a generation of income from one to the other. So why would 99% of the GP's patients go to the optician as well, you know, so those are the types of questions you ask, it is just those anomalies, what is that relationship (14:26).*

*Yes, there will be a proportion of those where you actually have to refer for further investigations etcetera, and again, like with the optician example, if you are a GP, why are most of your patients coming to me again? Do we all have eye problems, are we all going to the GP for eye problems? So then it feels just like the generation of income (14:27).*

Similar to this study, syndicated fraud was reported in Flynn (2016) study. The different types of scams include providers, family syndicates, members' only syndicates, or syndicates involving only members of the public. The syndicate

submits a false application or bills for phantom claims. At times, the syndicate includes healthcare providers who are relatives, and they refer the same patients to each other, regardless of the medical necessity.

In this section, the different ways in which South African medical schemes are defrauded were discussed. Service provider fraud was mostly reported by the participants. Medical scheme members, when sick, put their trust and even their lives in the hands of service providers. This is related to the fraud triangle theory, which proposes that people in positions of trust sometimes violate this trust by perpetrating fraud.

The service providers are capable of manipulating and persuading medical scheme members to collude with them and defraud schemes for financial gain. This implies that the element of capability that was advanced by Wolfe and Hermanson (2004) in the diamond fraud theory is applicable to medical scheme fraud. Opportunity, one of the elements that allows fraud to occur, due to poor controls within the medical scheme, entices service providers, syndicates, members, internal employees and brokers to perpetrate fraud against medical schemes. This was evident in this study, as some of the fraudulent activities were specifically directed at certain medical schemes. Figure 4.2 below provides a diagrammatic presentation of the subthemes of types of fraudulent activities committed against medical schemes.



*Figure 4.2 Sub-themes on types of fraudulent activities committed against medical schemes*

*Source: Author*

The next section presents strategies that can be employed to mitigate fraud in medical scheme claims.

#### **4.5 Strategies to mitigate fraud in medical scheme claims**

Fraud-mitigating strategies encompass control measures that medical schemes can implement internally, reporting on fraud, and collaboration amongst various stakeholders, in order to curb medical scheme fraud.

##### **4.5.1 Internal control measures**

Internal controls refer to measures that the medical scheme can implement within the company to mitigate fraud. These measures are discussed in the ensuing subsection, and consist of directive controls, fraud detection controls,

and fraud prevention controls. Lastly, fraud corrective/ reactive control measures that are implemented once fraud has been confirmed are presented.

#### 4.5.1.1 Directive controls

Blunden and Thirlwell (2013) stated that directive controls are put in place in order to provide guidance to the company, and are in the form of policies, procedures and manuals. COSO (2015) recommended that a fraud risk policy should be implemented when managing fraud. The participants spoke about the implementation of a fraud policy in the following quotes:

*I think the line that comes through all of it from the first to the last question is uhm. I don't know if you want to summarise it there. Firstly, you must have a fraud policy. And then you must be able to act on that fraud policy by having proper measures in place (3:23).*

*A policy without the will to implement the policy is meaningless, so if you had to tell me to have a policy implemented and it's very nice, yes, if you do not enforce that policy it is just words. So there is a word missing here. Implementing, communicating, and maintaining of fraud policy. Maintaining means you just keep it regular, up to date every year. And enforcing [the fraud policy] (1:7).*

The results of the study indicate that a fraud policy should be the starting point in mitigating fraud in medical scheme claims. The policy should be implemented, maintained and communicated to all employees. For the policy to be effectively implemented, it must also be enforced. The medical scheme administration company confirmed that a fraud policy is in place to guide fraud management activities. The next section presents fraud detective measures.

#### 4.5.1.2 Fraud detective controls

The purpose of detective control measures is to identify the risk as soon as it happens and then implement preventative control measures to curb the risk.

Detective control measures are categorised into whistle-blowing, fraud detection systems, audits, investigations, and syndicated fraud identification.

*a) Whistle-blowing*

Medical scheme members are encouraged to report fraud or suspected cases of it by means of whistle-blowing. This is explained in the following quotes by participants:

*Yes, and then also, you know what another thing is, is tip-offs from members or providers saying, a member came to my pharmacy and he wanted to claim for sunglasses, or optometrist, he wanted sunglasses on medical aid, you know, just people being honest (7:28).*

*The other side of it is obviously then or tip offs from providers or members (10:16).*

*...then we will, always we get a tip off or a whistle-blower that tells us this doctor does not look like a doctor, then we go and investigate, get the real doctor, you know, get a proper statement from, if he uses a locum we can also, only use a locum for a certain time, not permanently (4:13).*

The tip-offs received will be further investigated by the forensic team, in order to exclude or confirm fraud. The company that was selected as a case study reported that an anonymous tip-off line for reporting fraud is in place, which is managed by an independent company.

*b) Fraud detection system*

The fraud detection system mainly assists in continuously identifying irregular claiming patterns, as explained by the following participants' quotes:

*You must have system intelligence to verify procedures or items within a claim across claims for same people, same day even across different providers but all of it come down to proper systems (3:6).*

*But the system tells us, listen this person is claiming too much on the member, I think they are only allowed ten and the eleventh and the twelfth one came in, and that triggered that we had to look at it (9:14).*

Similar to the findings of this study, the importance of a fraud detection system in healthcare claims was also articulated by various authors (Wakoli *et al.*, 2014; Joudaki, *et al.*, 2015; Abdallah *et al.*, 2016). A fraud detection system is in place at the medical scheme administration company to identify fraudulent claims. Further investigation is carried out to evaluate the identified trend for fraud, so that appropriate control measures can be implemented.

### *c) Audits*

The analysis is performed to examine a service provider and member claims, in order to identify irregular patterns and fraudulent claims manually or through reports. The claiming behaviour of providers is also benchmarked against providers in the same discipline, so as to identify outliers. This is described in the following participants' quotes:

*You will find that somebody is saying that the person had a hernia. That is the Doctor that did it right, but when you look at the hospital, they will give you a funny code and E code about obesity and God knows what else, then you know, there is something that does not add up here (2:27).*

*We also run reports in the forensic space for duplicate claims (7:31)*  
*Retrospectively uhm again claims reviews to identify outlining trends and those need to be investigated (3:36).*

*So the people doing the coding on that, or the audits will identify and then run a full audit on the practice (4:36)*

*The audit or the report that we run on him to see that he is far ahead on his peers with his cost prescript or whatever, then we know what he is doing (4:42).*

d) *Investigations*

Fraud is detected through investigation, which could be undercover surveillance and by using personnel posing as medical scheme members, who use cameras to record the evidence. Moreover, on-site case management is also valuable in detecting fraud. The following participants' quotes explain fraud investigation methods:

*Yes, you know, again the surveillance team also does that, we have got our probes that goes in, and they are actors, they pretend like they are sick, they go to the doctor, they say to the doctor listen here, I actually want cash for that, that is how we do it in the forensic team. So also surveillance, also probes, we use our probes to do that, and that is a good preventative measure (7:29).*

*They use cameras, they go into pharmacies, use cameras, they go into doctors rooms, use cameras, they, ja (7:27).*

*So if we did do surveillance on him we would not have concrete evidence that this man is fraudulently claiming from the company, and that is what we were doing, and by doing that, documenting that, getting visual evidence of it by using, you know, video cameras and cameras we, and you know, exact times and dates where he was visiting, we would not have that evidence if we did not use surveillance (5:24)*

*We have actually got an on-site case manager who visits these patients, we flag them, and she will report back and say there is nothing wrong with this patient, she or he is fine; but the Doctor has admitted them, they have been in hospital for that condition, so when they submit a claim for life insurance (14:30).*

Based on the above discussion, undercover investigation, surveillance and on-site case management were suggested as measures to detect fraud. The investigation could involve undercover investigators posing as patients belonging to the medical scheme, with the aim of detecting fraud related to non-covered benefits (e.g. cash) being provided to members, and then claiming them as covered benefits. This allows the investigators to gather solid evidence,



as hidden cameras are also used to capture the fraudulent act. On-site case management refers to when the medical scheme employee visits the medical scheme member who is admitted to hospital, in order to verify the clinical appropriateness of his or her admission. These visits also assist to detect cash plan-related fraud.

e) *Syndicated fraud identification*

All the above measures should be employed for syndicated fraud. In addition, inappropriate referrals between providers should be identified and examined to detect a potential syndicated fraud operation. Syndicates could also be identified through systematic linkages. Therefore, utilising analytics with different criteria will assist in identifying syndicates. For instance, proper system intelligence can help to identify members with huge claims at the inception of membership for further investigation. A huge variation in brokers' sales should also be investigated. The study participants articulated these strategies in the following quotes:

*Ja, that's the ... you see your system's got to... like this other one we spoke about where we got a lot of claims in from one member, and we found out that it's false because there were certain links that linked the members, so we found out that it was a syndicate there. So your systems should actually help you a lot with that (9:36).*

*Ja, so syndicates is often picked up in our data, it is based on members and who the, so if a member sees one provider and commits fraud it is very likely that if there was a syndicate operating there would be like a referral to other providers. So to trend where members are going, you can see where they are going at a point in time, you can see the change of that trend over time, and also got what we refer to as a cluster analysis, so you can see where providers work closely together, and if that makes sense, so if a psychiatrist and a psychologist where working closely together it would make sense from a treatment action, but if a physiotherapist and a dietician, if two providers that do not necessarily make sense to have a very close relationship, those become*

*very questionable, so it is understanding a cluster of providers that work (14:28).*

*The brokers, if I think of brokers now, if we get a sudden escalation in a broker's submission from an area, or a high percentage that is just suddenly submitting, then that should also be a red flag. It can't – it's not a problem, but it's just got to be looked at, I mean that's preventative. Let's say he sells five health policies. Suddenly the next month he sells - individual policies - so the next month he starts selling ten group health policies. That should raise a flag, because I mean you used to do individuals and now suddenly you're here with groups, and those groups can be usually your syndicates (9:33).*

Syndicated fraud is reported to be difficult to detect. However, extra measures could be employed to successfully identify syndicates. For instance, data analytics can be used to identify out-of-the-norm referrals and unusual trends. Further investigations of these anomalies are then conducted to exclude fraudulent activities. In the next section, preventative control measures are presented.

#### *4.5.1.3 Preventative control measures*

Fraud preventative controls stop the risk event from occurring (Young, 2014). The more difficult these controls are, the less the likelihood of fraud occurring, as this discourages fraudsters from trying repeatedly to commit this crime, thereby serving as a deterrent. Fraud awareness among members and service providers, member verification at the point of service, benefit limits, automated system rejections, skilled personnel and a conducive working environment, segregation of duties, and prevention of syndicated fraud are presented in this subsection as preventative controls to mitigate medical scheme fraud claims.

##### *a) Fraud awareness among members and service providers*

Medical scheme members and service providers should be educated on fraud as a means of fraud prevention. Members are provided with a benefit schedule when joining the medical scheme, which details what is covered and excluded.

Members should also be educated about checking their medical scheme statement, in order to verify whether the service was provided. This type of control is explained in the following participants' quotes:

*If members can be, not the member audit, if members can be informed that they must check out for fraud within providers, you know, because a lot of members get their statement at the end of the month from xxxx saying you went to this doctor, this was a claim, this was claimed, this was claimed, this comes off your Savings Account, then if you, you know, a lot of members do not even know what half of that things, you know, or the codes and stuff means, they are just like it is a statement from xxxx and close it, instead of going was I actually at this providers rooms, you know. So also informing members (7:16).*

*Members also receive a document when they sign up for the membership to what is excluded, what exclusions there is, so the member should be aware; and certain procedures they have to get authorization and then the medical aid will tell them listen, this is not a, this is excluded from the benefits so the member needs to pay cash (4:39).*

*Awareness of both members and providers, awareness, proper awareness around fraud and collusion (3:40).*

Members' education was also found by Flynn (2016) to be one of the healthcare fraud management measures to reduce fraudulent claims.

*b) Member verification at the point of service*

Members of medical schemes should be verified by service providers at the point of service, so as to prevent the servicing of non-members. Debpuur *et al.* (2015) also emphasised the importance of identification of members at the point of service to prevent card farming. This authentication could be done by requesting the identity document (ID) of the member and comparing it with the ID number on the medical scheme card. Furthermore, a biometric system could be implemented to mitigate card farming. Another suggestion was to put the member's photograph on the medical scheme card, in order to enable the

service provider to identify the member. This is articulated in the following participants' quotes:

*Obviously with your card, I would say to have a photograph put on of the member, you know, a photograph and the ID number so that would link them to that, you know, that would say this is the members there (5:17).*

*I think if we could move towards biometric identity (2:23).*

*Probably the only way would be by metric scan (10:13).*

*...where the member can either use a finger print, so that it's a unique identification (12:5).*

#### *c) Benefit limits*

Implementing a proper benefit structure could mitigate fraudulent claims. Unlimited benefits should be avoided and, where appropriate, there should be a frequency limit in place, which limits the number of times the member can claim for certain healthcare benefits during a specified period. This is expressed in the following participants' quotes:

*I would say proactively one of the, an important thing is the benefit structures so you should not have unlimited benefits for providers (3:34).*

*So if I have a wheelchair this year, I should get one every year, you know. Or if you just put frequency limits in place (15:20).*

Applying limits to a member's healthcare benefits is similar to the suggestion made by Debpuur *et al.* (2015).

#### *d) Automated system rejections*

Fraudulent behaviour that is known to the scheme should be prevented by establishing system rules that automatically reject these authorisations and

claims. Claims for excluded benefits and duplicate claims should be automatically rejected by the system, without manual intervention.

*We have rules built into the systems where certain providers, certain codes, as soon as the agent, the pre-authorisation agent puts that code or that provider in, the system will decline the event (8:19).*

*The date, the treatment code or the nappi code for the medicines or whatever, the dependent or main member receiving treatment, the system will automatically detect if it is a duplicate (1:19).*

This finding concurs with that in Nsiah-Boateng *et al.* (2017) study, which found that automated system rejection rules were effective in curbing the payment of duplicate claims in Ghana. Rejecting fraudulent claims for known fraud could save the medical scheme's resources, thereby eliminating administrative costs related to investigating fraud.

*e) Skilled personnel and a conducive working environment*

Similar to the finding in Flynn (2016), this study found that people with the requisite skills should be in the employ of the medical scheme. Appropriately qualified clinical people should be tasked with granting authorisations for hospital admission, so that their knowledge is applied to determine whether the admission is medically necessary. The authorisation personnel should also be trained with regard to the benefit policies offered by the medical scheme. Personnel tasked with fraud investigation and management should comprise of people with various relevant skill sets. This viewpoint is explained in the following participants' quotes:

*Uhm proper benefit policies for a start. You must have proper policies of which benefits are granted or not. I mean that must be available to the people who grant authorisations, work with the authorisations. Ensure that the correct ICD codes are captured and then you must also acknowledge all the people doing these types of authorisations who have a bit of a medical background to ask questions if it appears that there could be a problem you know. Often the*

*member will phone in with a code but it might be beneficial to ask them a bit about the condition and so on (3:45).*

*You need almost a multidisciplinary team and you go put it there and investigate. You need people with doctors backgrounds. You need analytical people. You need clinical people and you need people with investigation background and they must work together. They must combine efforts and investigate it (3:22).*

*But for us at forensics to combat fraud, the employment of top people is, is vital, it is crucial, and I will tell you now, just how many of the people have told you what, how we are functioning here. We have got the health investigators, but it sounds health investigators but what are the levels of the education (1:11).*

The researcher observed, during a walk-through at the medical scheme administration company, that the personnel involved in fraud management possessed a variety of skills geared towards fraud mitigation.

A conducive working environment was also cited as important, as it will encourage staff members to play their part in preventing fraud.

*They should be loyal. I mean if you've got a loyal person, the chances that he will defraud you or help to defraud you is low, but if you've got a disgruntled employee you will always have problems. But you can't stop that, because we are working with people. I was in security, we always said in security, the system is as good as the people that is running it. So if your people are loyal and they enjoy their work here, you shouldn't have problems (9:55).*

#### *f) Segregation of duties*

The segregation of duties was highlighted by one of the study participants as a valuable control measure in preventing fraud emanating from medical scheme employees. This is articulated in the following participant's quote:

*What you can do as well to prevent this is separation of duties (9:56).*

Different functions should be performed by different employees. Separation of duties amongst medical scheme employees could reduce the likelihood that internal fraud will remain hidden.

*g) Syndicated fraud prevention*

Identifying and knowing your client at the application stage could prevent the operation of syndicates in medical schemes.

*So false policies would also be a big syndicate. So if you know your client at a new business stage and you do as much as you can to identify that client then everything else around it should be okay (10:11).*

*So that is a very important aspect and obviously what you would do is the bank account provided does belong to the client. You know ask for an ID copy and you know even though their ID's can be. Any measures in place as possible and make it just harder for them because what you would also notice is the harder you make it for them here to move onto the next scheme (10:12).*

This shows that identifying prospective medical scheme members at inception could reduce the risk of identity fraud by syndicates. This will also discourage this type of fraudster from targeting medical schemes. Fraud corrective control measures are discussed in the next section.

*4.5.1.4 Fraud corrective control measures*

Once a case of fraud has been confirmed, fraud corrective or reactive control measures should be implemented. Corrective control measures are implemented after the risk event has materialised, in order to remedy the effects of the risk (Blunden & Thirlwell, 2013). Fraud corrective measures, which include rehabilitation of the provider, termination of the relationship with the provider or member, updating of system rules, reporting the service provider to

the police and Health Professions Council of South Africa (HPCSA), and reversal of fraudulent claims, are discussed in this subsection.

*a) Rehabilitate the service provider*

If the provider is the first-time offender, the service provider could be rehabilitated and given an opportunity to remedy his or her fraudulent behaviour. This is explained by the study participants' quotes:

*...always try and do a rehabilitation with the doctor first (12:3).*

*In certain instances, you actually do want to maintain a relationship with that provider for whatever reason, he might be really good in his or her field, or it might be a provider that was, like it is the first time they have committed offence and you have caught them. So you want to almost rehabilitate that behavior, you want to give them an opportunity to change their ways and you monitor them (14:11).*

*b) Terminate the relationship between the medical scheme and member/ service provider*

The contract between the fraudulent member or service provider should be evaluated to consider if the relationship should be terminated. However, in cases of repeat offenders, the relationship should be terminated and the provider should be blocked from receiving further authorisation and payment for their services from the medical scheme.

*Blocking providers from rendering services to our members, and actually terminating membership of members who have actively defrauded the system, actively and consciously (14:5).*

*I mean revising the contract whether it be a provider, a member. It would have to be a decision regarding whether you want to keep this and then the contract. Ja. That would be it. Really important. Especially if you have a member that's sending in false claims (10:7).*



*If it is clear blatant fraud and it has happened a number of times block that provider, but sometimes it is just a bit fair to give them an opportunity to change their behavior (14:34).*

c) *Update system rules*

The importance of updating the system rules was emphasised. This involves updating fraud detection intelligence and reports to incorporate newly discovered fraudulent activities.

*Fraud reaction measures uhm. Okay so of that system rules, I would also say as part of that is update your fraud detection intelligence, your reports that you run and those types of things. You must always be flexible to change them as you identify new things (3:30).*

d) *Report the service provider to the police and HPCSA*

The service provider found to be committing fraud should be reported to the HPCSA for further investigation, as indicated in the following participants' quotes:

*Report to the police, it is fraud, fraud is fraud no matter what, white collar crime is a crime (5:26).*

*Yes, even if the doctor is registered and he does not, according to the members he is not, does not look like he is, do the stuff a doctor should do, that is, we will report him, or the member can report him to the Health Professionals Council to say listen, investigate this doctor, he does not look like he is ethical (4:40).*

e) *Reversal of fraudulent claims*

The fraudulent claims should be reversed once fraud is confirmed. However, there was a caution against the reversal of claims before the investigation has

been finalised. The study participants asserted that this weakens the fraud case against the provider.

*Reverse the claim, let him pay the money back, why should he benefit (5:25).*

*And in cases of monies have been unduly paid, we can reverse or we can claim that money back (8:33).*

*Many, our system doesn't get it necessarily. So the system don't catch that obviously and it gets reversed daily. Those claims just in case we miss something. So when we do the cleanups, those reports (13:8).*

*In my field, cause some of the, if the service is not rendered and it is only a member complaint, where services were not rendered to him you, you had a word, a chat with the provider and he agrees to, he did not render a service, then you can reverse and it goes back to the member's benefits (4:50).*

*We also run reports in the forensic space for duplicate claims so, you know, wherever the system picks up a duplicate claim that has been paid out, or as forensic investigators we call the provider and we say listen here, you did a caesarean section on the 10th and you did a caesarean section on the 11th, which day did it happen, and we reverse the claim that is incorrect (7:33).*

*You know it is, it is not always, you reverse claims sometimes after the, after you have met with the provider, if you reverse it before you call the provider for the meeting. He will just say it was, you know, [indistinct] or what you call it, stop basically before, you know, if you reverse it, I do not know how to explain this, as if the matter is concluded (4:25).*

Fraud mitigation control measures reduce the number of opportunities available to perpetrators. The control measures make it difficult for fraud to be committed against the medical scheme, and ultimately deter the fraudster. If the risk of being caught is high and the consequences are substantial, fraudsters are discouraged from continuing with the behaviour. Therefore, a policy to guide fraud mitigation activities should be put in place. Fraud preventative, detective

and corrective controls should be implemented in order to mitigate fraud in medical scheme claims. These measures are depicted in figure 4.3 below.



*Figure 4.3 Internal control measures*

*Source: Author*

The next section examines the reporting of fraud as a means to assist in mitigating medical scheme fraud.

#### **4.5.2 Reporting of fraud**

Most of the study participants agreed that reporting fraud in the annual report would assist in the mitigation of medical scheme fraud. Feedback should be given to whistle-blowers, irrespective of the result of the investigation. Reporting fraud in the annual report will increase fraud awareness and justify the medical scheme's investment in fraud management-related activities. Moreover, public confidence will be gained, as the scheme will demonstrate that fraud is

investigated and managed by the medical scheme. The value of the reporting of fraud is represented in the thematic map in Figure 4.4 below.

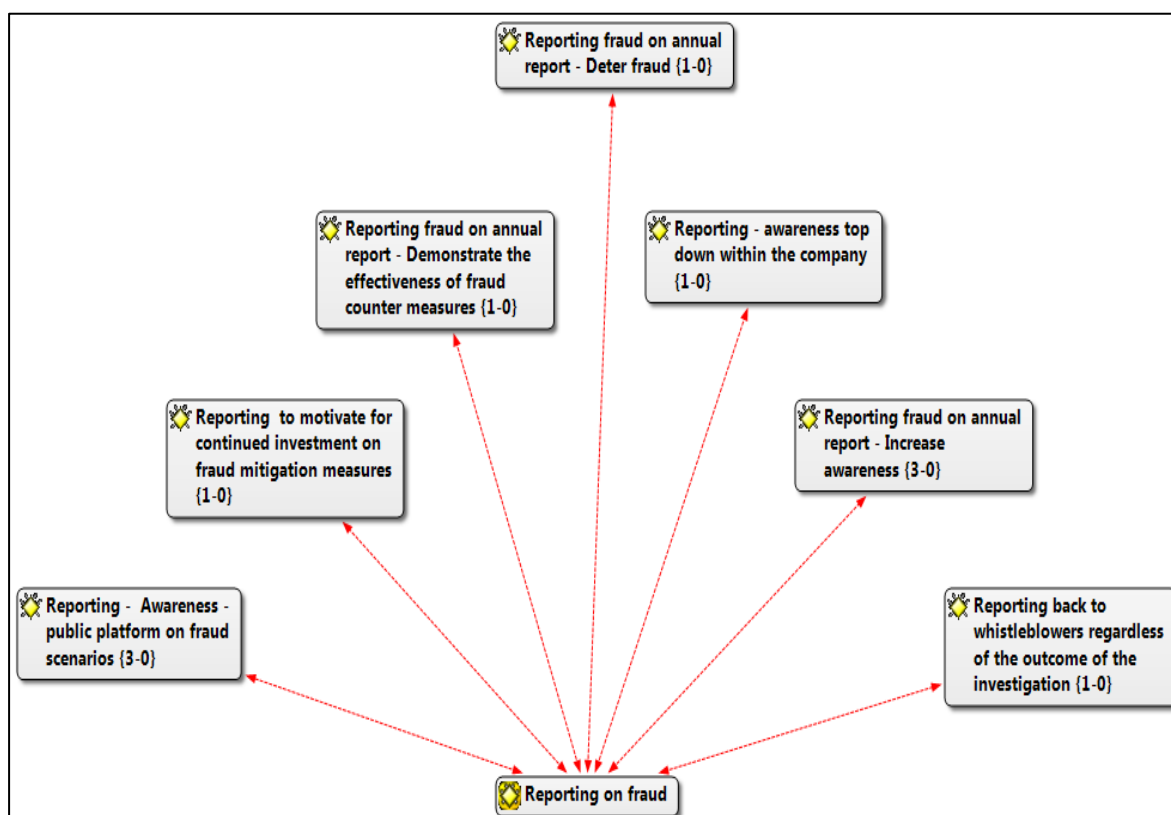


Figure 4.4 Reporting of fraud

Source: Author

#### 4.5.2.1 Increase fraud awareness and justify investment in fraud management activities

The benefits that were anticipated from reporting fraud in the annual report included the opportunity to highlight medical scheme fraud and increase awareness amongst all stakeholders. Furthermore, awareness of the level and magnitude of fraud will be enhanced thereby justifying the investment in fraud-mitigating activities. This is expressed in the following participants' quotes:

*You know I think forensics must not be closed, it must be open for the whole of xxxx to see, you know, every department, and with doing that, if people are aware of fraud they, like I said earlier, they actually check for fraud in each and every section of their work (7:25).*

*...it will create awareness and that in itself will go somewhere to mitigate fraud (3:31).*

*Create awareness in the company and then hopefully filter down to the areas where it should. So obviously it will have an effect (10:17).*

*...because if you're reporting on continue, investing on mitigating on fraud (15:9).*

*I think what would be good is the publication of certain instances. To say, let's say for example, we catch a surgeon who has been doing breast augmentation and billing for lumpectomy's, for that to be published in some form of medical journal. So that doctors who read it, they see that we are thinking out the box, when we look at, when we come from a forensic approach (8:29).*

*You know in the end of the day with the annual report there is also a savings for the company, are we doing our work, why do you have a unit, a forensic unit to investigate if there is no fraud, you got, need them, there is fraud, they need to investigate it (5:19).*

#### **4.5.2.2     Increase public confidence**

The suggestion was made that the whistle-blowers, whether internal or external, should be given feedback on the cases that were reported. Reporting on how fraud is managed by the scheme will increase public confidence in the medical scheme. The following quotes express the participants' views:

*Ja, but also in the company, let the people know that the fraudsters are being caught you know, and the preventions that was placed helped to catch the criminals. ...You know it just builds confidence as well that people know, okay whoa, our people are working and we can catch, you know. We on any case of ours we will report back to the person the outcome of the investigation... it's good to give feedback to the people that (9:26).*

*I think, yes, because as we report on fraud, I mean, it is a pattern that every year, there is more money being recovered to the scheme from fraud. Uhm,*

*as we report on that, it is a pattern that will constantly be going upwards, in which case, the people who have access to that and see it are going to see that we are getting better and we are picking up more things. And it might, it will hopefully make them think twice when submitting fraudulent claims or committing fraud or anything similar, they will think twice (8:24).*

Young (2015) emphasised the importance of reporting in the effective management of risks. This sentiment appeared to be shared by the study participants. The reporting of fraud in the annual report by medical schemes will facilitate communication to the public, thereby creating fraud awareness. It will also provide an opportunity for the medical scheme to instil confidence in the public that fraud is being managed. Furthermore, it will demonstrate that the amount of funds spent on fraud mitigation strategies is warranted.

The following section focuses on the role that the collaborative efforts between various stakeholders could play in effectively mitigating fraud in medical schemes.

### **4.5.3 Stakeholder collaboration**

#### *4.5.3.1 Medical scheme industry collaboration*

Medical schemes should work together to mitigate fraud through information and data sharing. These collaborative efforts should also extend to collective investment in fraud management activities.

##### *a) Information and data sharing*

Regular conferences should be organised for the sharing of information on the types of frauds and trends experienced by various medical schemes, as well as control measures to mitigate this risk. The details of fraudulent service providers and medical scheme members should also be shared amongst medical schemes, in order to alert other schemes to the fraudsters. In addition, fraud investigation efforts should be combined across different medical schemes to

successfully prosecute perpetrators. This was indicated by the participants in the following quotes:

*We already, you know, work together with certain schemes. When we identify a provider we meet with them, we share info. If he is doing it to one scheme he is also doing it to other schemes (4:27).*

*I think they can have annual conferences to discuss areas and scenarios of fraud which will make, you know, the various parties look at fraud maybe a little bit differently; or go and review their data differently (6:17).*

*So it would be good to share that information to other schemes, so almost to, I know you are like really penalizing the member, but to just like an FYI this member has been terminated for doing such and such, so it makes it very difficult for a member to join another scheme, again it would be a deterrent (14:8).*

*That's a tender point in our country. I mean you know how it goes. People don't want to. I think sharing of information is very important. So they need to share the details of fraudulent providers. They need to share the details of fraudulent trends that they pick up and sometimes I think it's important that different medical aid schemes combine investigations in order to successfully prosecute the provider. You can say there it's almost always important to get a global picture and you can only get a global picture if there is data and information sharing from all stakeholders (3:17).*

Data should be shared among all medical schemes in South Africa to unpack and assess claiming patterns, in order to identify fraud and prosecute the perpetrators at industry level. This will also prevent medical scheme members from requesting the same procedure across various medical schemes - for example, the amputation of the left leg paid by one scheme being requested again by the same member from another medical scheme.

*I mean, it is going to build a solid strong case, and once again, that is by sharing information and, it is like for example, in the police force we used to work on crime and intelligence here, then we will find all of a sudden that murder and*

*robbery is working on the same thing but it is, we have got the same suspect, but we are not sharing information because you, we do not want you to must know what I know, and a lot of times then the guy gets away with that because, you know, he is investigating this part of the crime, and we investigated this part of it, but yet they are actually together, they are running in parallel, and you do not know that because you are too scared to share information (5:16).*

*b) Joint investment in fraud management activities*

A biometric identification system at the point of receiving healthcare treatment should be established to curb card farming. The cost of implementing the system should be shared amongst all the medical schemes.

*I think medical aids should join together for that [biometric identification system]. Like it should be a joint effort. Because then it defeats the purpose if one medical scheme is going to do it, it costs them everything and also they, how to better the industry. Because fraud affects all of them (2:11).*

*4.5.3.2 Collaboration between medical schemes and health insurance companies*

Short-term insurers should inform medical schemes about members in possession of a hospital cash plan, so that these members' claiming patterns can be closely monitored. Furthermore, fraud trends should be shared between insurers and medical schemes. This is explained by the participants' quotes:

*Also sharing data and sharing trends picked up (6:18).*

*In my opinion it's important that they share databases. It's important that the medical aids know which of their members do have cash plans and then it's important that they share any uhm on toward behaviour or high-risk claims or whatever you want to call it. Especially from the cash plan side. They should share [unclear] on their policies with the medical aid schemes so that we can investigate on our side (3:19).*



*We have even done together investigations with the investigators out in the field, and we collaborated with them, and then stopped the guys thing, and the man is crying now because he does not want to go to jail, he knows jail is not a pleasant place for people like that (5:9).*

There is an indication that medical schemes working together with short-term insurers to mitigate fraud in claims will yield a better result. This includes combining resources to fund the strategies to fight fraud. The medical scheme administration company attends multi-insurers' forums, which encompass medical schemes and insurers that offer healthcare insurance products, such as hospital cash plans, meeting to discuss matters relating to fraud.

#### *4.5.3.3 Medical scheme collaboration with the Department of Health and Department of Justice*

Most of the study participants opined that medical schemes working together with relevant stakeholders, including the Department of Health and the Department of Justice, will assist in the fight against fraud, as indicated in the following quotes from participants:

*If the public sector and the private sector had to join hands oh my God! Can you imagine how fraud can be eradicated (1:12)?*

*I think my answer to that would be in the end I think it is important that there's collaboration between all the parties because each must bring their bit in order to get the industry clean, the whole medical industry. So there is a place for the justice department. In certain cases, people need to be prosecuted. The Health Department also have a role to play. Ja. I think that's my answer. Collaboration is important and each party needs to bring their bit in order to get the whole industry (3:21).*

*It is awareness; it speaks to the seriousness of problem areas. So, like the hospital cash plan for example, we work closely with the cash plan, but if you made this known nationally to every authority involved in health care it just puts more pressure on everyone not to do this, because now the Department of*

*Health is going to be scrutinizing it at some level, the Health Professional Councils are going to be aware that it is going on, they are probably going to have a register of providers to commit fraud, at least start feeling bad for people that want to commit it (14:19).*

The study also found that to mitigate medical scheme fraud, the training of specific police members and prosecutors, who will be tasked to investigate and prosecute healthcare fraud would assist in successful management of this crime. Furthermore, the study revealed that tertiary institutions should include training on discipline-specific-coding in their curricula. The aforementioned measures are explained in the ensuing subsection.

*a) Training of police and prosecutors on healthcare fraud*

There were concerns raised with regard to the ability of police and prosecutors to investigate and prosecute medical scheme fraud. The recommendation was made that special police units and a few prosecutors should be trained on healthcare fraud by medical schemes. This will equip the Department of Justice with the skills required to successfully prosecute fraudsters. This was indicated by the following participants:

*So trust issue with the police and trust issue with the justice department, for me personally, is an issue. I have had a court case now in Wynberg Court where the prosecutor did not even know how to prosecute fraud (1:13).*

*The police ability to deal with medical aid fraud is sometimes questionable in my opinion (3:14) ... your chance of successful prosecution after spending days and weeks in court is minimal (3:15).*

*The only thing is, the police don't have the infrastructure or the resources to investigate it, so effectively, which is why so many departments like fraud, like ours have been erected in different companies (8:22).*

*Ja, it's for my company's knowledge to investigate my cases and get it successful so that we can get the wrongdoers off the street. But other people*

*say no it is my personal police, and I am misusing them, so the best idea then is actually that the whole medical aid fraternity make that suggestion and say listen, let's go to the police and say listen, let's train people in that area like Bloemfontein or major areas, on how to work with our cases. And then with one or two Prosecutors in the area. We will get much better (9:40).*

*b) Coding training at tertiary institutions*

In order to decrease coding irregularities, the training of healthcare service providers should be enhanced to include training on the utilisation of a discipline-specific billing manual.

*Ja, providers need to be trained on what the codes are and how they need to use them (8:31) ... so, training in tertiary institutions (8:32).*

Combined efforts amongst different stakeholders will go a long way in mitigating fraud in medical schemes. Medical schemes should work together by sharing the details of fraudulent providers and members to root out fraud at industry level. Fraud trends and management strategies shared between medical schemes would mitigate fraudulent claims in medical schemes. Looking beyond the medical industry, the medical industry collaborating with short-term insurance companies and the Department of Health could yield positive results as certain fraud affects both entities. Flynn (2016) also recommended that the public and private healthcare sectors should collaborate to effectively manage fraud in the healthcare industry. The Department of Justice would also assist in prosecuting fraudsters to deter this risk.

## **4.6 Conclusion**

The chapter presented the analysis and findings of the study on the types of fraud experienced in South African medical schemes. The manner in which this fraud could be mitigated was also presented. The findings were supported by descriptions and direct quotes from study participants' interview transcripts. In

the next chapter, the conclusion and recommendations of the study are discussed.

## **CHAPTER 5: CONCLUSION AND RECOMMENDATIONS**

### **5.1 Introduction**

The previous chapter presented the findings from the data analysis in this study. In this chapter, the research conclusion derived from the findings of the study is discussed. Furthermore, recommendations on strategies to mitigate fraud in South African medical scheme claims are detailed. Lastly, the limitations of the study and suggested areas for future research are discussed.

The main objective of the study, as indicated in section 1.5 in chapter one, was to identify strategies to mitigate fraud in South African medical scheme claims. The secondary objectives were, firstly, to identify the types of fraud perpetrated against South African medical schemes, and secondly, to explore strategies to mitigate this type of fraud. In the next subsection, the conclusion of the study is presented.

### **5.2 Conclusion of the study**

The conclusion of the study were drawn in terms of the objectives of the study.

#### **5.2.1 Identification of the types of fraudulent activities perpetrated against South African medical schemes**

This study concluded that perpetrators defraud South African medical schemes in numerous ways. These perpetrators encompass service providers, medical scheme members, medical scheme employees, brokers and syndicates. Medical scheme fraud also occurs by means of collusion between medical scheme members and service providers, or between service providers. Most of the fraudulent activities were committed by healthcare service providers, who submitted false claims to medical schemes. This was done by providing distorted information that indicated that the covered services were rendered. Moreover, irregular billing of codes, which involves up-coding, code padding and unbundling of codes, was another method used by service providers to

defraud medical schemes. Service providers also billed excessively for services or products, and provided services that were medically unnecessary. There were instances where the service providers billed the scheme for a covered benefit or product, but provided services or products that are excluded by the medical scheme. Duplicate claims were also submitted by service providers. Furthermore, unlicensed service providers billed medical schemes for services provided to members.

Members of medical schemes committed fraud by either failing to disclose a pre-existing medical condition, or through card farming (sharing medical scheme benefits with non-members). Employee fraud encompassed changing banking details of members to channel funds for a member's claim to their own banking account. Medical scheme employees submitted false claims to their own medical scheme. Brokers mainly committed fraud by submitting false policy applications, and by failing to disclose the applicant's pre-existing medical condition.

Collusion to defraud medical schemes occurs amongst medical scheme members and service providers, or amongst service providers. Medical scheme members and service providers collude to claim for excluded benefits or non-medical items as covered benefits and to access cash plan benefits from short-term insurers. Another form of collusion occurs amongst hospitals and independent allied service providers (for example, nurses, physiotherapists, and dieticians). This type of collusion involves the hospital giving allied healthcare providers access to the medical scheme details of the patient admitted to the hospital, in order to claim for services not rendered. In most instances, these services, such as nursing, are provided by hospital employees, and are charged as part of the hospital bill that is submitted to the medical scheme.

Syndicates that defraud medical schemes may include medical scheme members, employees of the medical scheme, service providers, brokers or any other person. Firstly, through identity theft, the syndicate applies for a medical scheme policy for unsuspecting members. Thereafter, the syndicate submits

false claims to medical schemes. Secondly, syndicates that defraud medical schemes can include only service providers, especially where service providers of the same family refer the same medical scheme members to each other. Thirdly, a syndicate that includes medical scheme members usually targets service providers for cash. At times, syndicates target specific medical schemes. The study also established that syndicates sometimes aim to build a health profile with the medical scheme, with the intention to defraud other products, for instance life policies and cash plans offered by long-term and short-term insurers. Table 5.1 below presents a summary of the types of fraud perpetrated against South African medical schemes.

**Table 5.1:** Fraudulent activities committed against medical schemes in South Africa

Service provider fraud	Medical scheme member fraud	Employee fraud	Broker fraud	Collusion	Syndicated fraud
<ul style="list-style-type: none"> <li>• False claims</li> <li>• Irregular billing of codes</li> <li>• Excessive billing for services and products</li> <li>• Provision of unnecessary medical services</li> <li>• Duplicate claims</li> <li>• Excluded products and benefits claimed as covered benefits</li> <li>• Unlicensed service providers</li> </ul>	<ul style="list-style-type: none"> <li>• Non-disclosure of pre-existing medical condition</li> <li>• Card farming</li> </ul>	<ul style="list-style-type: none"> <li>• False claims</li> <li>• Channeling a member's refunds for claims to own account</li> </ul>	<ul style="list-style-type: none"> <li>• False medical scheme policies</li> <li>• Non-disclosure of the applicant's pre-existing medical condition</li> </ul>	<ul style="list-style-type: none"> <li>• Excluded benefits or non-medical items claimed as covered benefits</li> <li>• Cash plan- related fraud</li> <li>• Hospital colluding with independent allied service providers</li> </ul>	<ul style="list-style-type: none"> <li>• Identity theft to submit false claims</li> <li>• Family syndicate involving referral of same members between service providers of the same family</li> <li>• Syndicates build a health profile to defraud other products, e.g. life policy, hospital cash pan</li> </ul>

Source: Author



The various types of fraudulent activities presented in this section demonstrate that medical schemes are defrauded utilising different methods. Most of the fraud categories were found to be committed by service providers. In addition, syndicates, members of medical schemes, employees of the medical scheme and brokers have found ways to defraud medical schemes. This type of fraud is also committed through collusion amongst service providers, or between medical scheme members and service providers.

The following section presents the strategies that can be used to mitigate fraud in medical scheme claims.

### **5.2.2 Examination of strategies to mitigate fraud in South African medical scheme claims**

Strategies to mitigate fraudulent claims are presented in this section. The study established that fraud in medical scheme claims could be mitigated in several ways. These strategies have been categorised into internal controls that the medical scheme could implement, reporting on fraud, and stakeholder collaboration.

Internal control measures include, firstly, implementing a fraud policy to direct fraud-mitigating activities in medical schemes. Secondly, fraud detection measures should be put in place. Syndicate fraud detection requires special investigations utilising various intelligence, as it is complex to identify. Thirdly, known fraud could be mitigated by implementing preventative control measures. Furthermore, corrective control measures, which could be executed once fraud has been identified and confirmed, were found to be essential in managing fraud.

Moreover, reporting on fraud in the medical scheme's annual report was regarded as a way to increase fraud awareness amongst stakeholders. Reporting on fraud further justifies the amount of funds allocated to fraud mitigation activities. Providing feedback regarding the outcome of the reported

fraud cases by the public or internal employees for further investigation will increase public confidence in the medical scheme.

Collaborative efforts amongst medical schemes will contribute towards combatting fraud in claims. Furthermore, if the medical scheme industry combines forces with short-term insurers who offer cash plans, this could curb the type of fraud that is directed at both industries. The Department of Health and the Department of Justice were cited in the study as important stakeholders in mitigating fraud in medical scheme claims. The next section recommends strategies to mitigate fraud in South African medical scheme claims.

### **5.3 Recommendations**

Recommended medical scheme fraud mitigation strategies are discussed in this section. Firstly, a fraud policy should be implemented, maintained, communicated and enforced, in order to guide fraud management activities in medical schemes. Continuous monitoring of fraud in claims should be employed to detect fraud. Fraud detection measures should be put in place, which include whistle-blowing, fraud detection systems, audits and investigations. Syndicate fraud is detected through the investigation of systematic linkages by using various criteria.

Fraud can be prevented by raising fraud awareness among service providers and medical scheme members, member verification at points of service, implementation of proper benefit limits, segregation of duties, and automated system rejections. Furthermore, employing personnel with requisite skills in medical schemes was found to assist in mitigating fraud. The creation of a conducive working environment by the medical scheme management will assist in increasing loyalty amongst staff, which will in turn enhance employees' involvement in fraud-mitigating strategies.

Furthermore, corrective control measures should be adopted, which encompass the rehabilitation of the service provider for first-time offenders, and the termination of the relationship with fraudulent medical scheme members or

service providers, particularly for repeat offenders. Fraud trends evolve over time, hence the system rules must be updated in instances where a new type of fraud is detected. The fraudulent service provider must be reported to the police for prosecution. In addition, the service provider must be reported to the Health Professions Council of South Africa (HPCSA) for further investigation. Fraudulent claims must be reversed once the forensic investigation has been completed.

Moreover, reporting on fraud was regarded as a way to mitigate this risk. In this regard, reporting fraud in the annual report of the organisation will increase fraud awareness amongst stakeholders and justify the amount of funds allocated to fraud mitigation activities. Furthermore, feedback regarding the outcome of the reported fraud cases by the public or internal employees will increase public confidence in the medical scheme.

Collaborative efforts amongst medical schemes aimed at sharing fraud trends and information on fraudulent providers and medical scheme members will also assist in mitigating this risk. Medical schemes should share data to assess fraud at the industry level. Combined efforts amongst all South African medical schemes, by collectively providing funds for fraud-mitigating activities, were also suggested in the study. Medical schemes should collaborate with short-term insurers who offer cash plans, in order to manage interrelated fraud perpetrated in both industries.

The Department of Health and the Department of Justice were cited in the study as important stakeholders in mitigating fraud in medical scheme claims. Coding training for healthcare professionals should be included in tertiary curricula to minimise the irregular billing of codes. Lastly, the special police unit and a few prosecutors should be trained by medical schemes on healthcare fraud, in order to increase the success rate of prosecution by the Department of Justice. The successful prosecution of fraud in medical scheme claims will ultimately reduce this risk. Table 5.2 below presents the recommended matrix for mitigating fraud in South African medical schemes.

**Table 5.2:** Mitigation matrix for fraud in South African medical scheme claims

INTERNAL CONTROL MEASURES			
Directive control	Detective controls	Preventative controls	Corrective controls
Fraud policy	<ul style="list-style-type: none"> <li>• Incentivised whistle-blowing</li> <li>• Fraud detection system</li> <li>• Audits</li> <li>• Investigations</li> </ul>	<ul style="list-style-type: none"> <li>• Fraud awareness among medical scheme members and service providers</li> <li>• Member verification at the point of service</li> <li>• Proper benefit limits</li> <li>• Automated system rejections</li> <li>• Skilled personnel and conducive working environment</li> <li>• Segregation of duties</li> <li>• Knowledge of clients at the application stage</li> </ul>	<ul style="list-style-type: none"> <li>• Rehabilitate the healthcare service provider</li> <li>• Terminate the relationship with the service provider</li> <li>• Terminate the relationship with medical scheme members</li> <li>• Update system rules</li> <li>• Report the service provider to the police and HPCSA</li> <li>• Reverse fraudulent claims once the investigation is completed</li> </ul>
Reporting on fraud			
Collaboration amongst medical schemes			
Collaboration between medical schemes and short-term insurers			
Collaboration between medical schemes, Department of Health and Department of Justice			

Source: Author

The next section discusses the anticipated contribution of this study.

#### **5.4 Contribution of the study**

This study contributes to the body of knowledge pertaining to the mitigation of fraud in South African medical scheme claims. The recommendations made by the study could be implemented by South African medical schemes to mitigate fraud in claims more effectively, thereby reducing the amount expended on fraudulent claims and supporting cost containment strategies. The effective control of this risk could improve the financial viability and reserves of medical schemes.

The savings and recoveries emanating from fraudulent claims could also be directed towards the enrichment of benefit offerings and improvement of service delivery to medical scheme members. Furthermore, medical scheme members would benefit from a reduced rate of increment on monthly contributions, thereby enhancing their affordability. The medical scheme industry will also grow, as more people will be able to pay the monthly contributions. The following section discusses the limitations of the study.

#### **5.5 Limitations of the study**

Polonsky and Waller (2011) emphasised that no matter how cautious the researcher is, there are always some issues that limit or affect the adoption of the results. Therefore, they viewed limitations as playing an important role in contextualising the research findings. The first limitation of this study relates to the methodology that was employed. An exploratory qualitative approach was followed and one medical scheme administrator was selected in order to collect data. Therefore, the results cannot be generalised to all medical schemes in South Africa.

Furthermore, the results cannot be applied to the South African healthcare system as a whole, as only medical scheme fraud was studied, which excluded the public healthcare sector. Another limitation of the study was the participants' bias, as the opinions and insights of the research participants were sought, which formed the basis of the research findings. Nonetheless, the

recommendations from the study are valuable in helping medical schemes to understand the types of fraudulent activities that are committed in claims, as well as strategies to manage the risk in order to reduce fruitless expenditure. Recommended areas for further research are advanced in the next section.

## **5.6 Areas for further research**

In this study, the aim was to gain rich insights into fraud experiences in medical schemes and the strategies to mitigate this type of risk, using a qualitative methodology. Future research could employ a different research methodology, which may yield different results on the management of fraud in medical scheme claims. The study utilised a case study strategy. Therefore, the study could be replicated in future utilising a strategy that will permit the generalisability of the results to all medical scheme administrators in South Africa.

This study was delimited to medical schemes in the South African context. However, medical schemes form part of the South African healthcare financing system. Therefore, a study focusing on fraud in the public healthcare sector in South Africa is recommended for further research. A study investigating the implementation of a legal framework to combat fraud in the South African healthcare system is also proposed. Lastly, studies focusing on employee and broker fraud in healthcare are suggested for future research.

## **5.7 Conclusion**

In this study, fraud mitigation strategies in South African medical scheme claims were examined. An exploratory qualitative methodology was followed, utilising a case study strategy. One medical scheme administrator was chosen as a case, from which a purposive sample was selected. Data was collected, which provided insights and opinions regarding the fraudulent activities perpetrated against medical schemes, through individual semi structured interviews. Furthermore, strategies to mitigate fraud in medical scheme claims were

examined. Thematic data analysis was employed with the aid of ATLAS.ti software.

The case study found that South African medical schemes were defrauded in various ways, mostly by service providers through the submission of false claims and irregular billing of codes. Medical scheme members, brokers, medical scheme employees and syndicates also defrauded medical schemes. Fraud mitigation strategies in South African medical claims were presented in the recommendations matrix, which commenced with directive control in the form of fraud policy. Various fraud detective, preventative and corrective control measures were advanced in this study. The importance of reporting on fraud was also highlighted. If medical schemes work together and with other stakeholders, this will assist in effectively mitigating fraud in medical scheme claims.

## LIST OF REFERENCES

Abdallah, A., Maarof, M.A. & Zainal, A. 2016. 'Fraud detection system: A survey', *Journal of Network and Computer Applications*, 68:90-113.

Abdullahi, R. & Mansor, N. 2015. 'Fraud triangle theory and fraud diamond theory: Understanding the convergent and divergent for future research', *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 5(4):38-45.

Arshad, R., Razali, W.A.A.W.M. & Bakar, N.B. 2015. 'Catch the warning signals: The fight against fraud and abuse in non-profit organisations', *Procedia Economics and Finance*, 28:114-120.

Ataguba, J.E. & Akazili, J. 2010. *Health care financing in South Africa: moving towards universal coverage*. [Online]. Available from: <http://www.ajol.info/index.php/cme/article/download/55239/43707> [Accessed 05 August 2014].

Bateman, C. 2015. 'Medical aids often their own worst enemies with fraud', *South African Medical Journal*, 105(11):887-888.

Bauder, R., Khoshgoftaar, T.M. & Seliya, N. 2017. 'A survey on the state of healthcare upcoding fraud analysis and detection', *Health Services and Outcomes Research Methodology*, 17(1):31–55.

Beins, B.C. 2013. *Research methods: A tool for life*. 3<sup>rd</sup> ed. Boston: Pearson.

Benson, M.L. & Simpson, S.S. 2015. *Understanding white-collar crime: An opportunity perspective*. 2<sup>nd</sup> ed. New York: Routledge.

Blunden, T. & Thirlwell, J. 2013. *Mastering operational risk: A practical guide to understanding operational risk and how to manage it*. 2<sup>nd</sup> ed. Harlow: Pearson Education Ltd.



Board of Healthcare Funders of Southern Africa. 2013. *The resilience to fraud of medical schemes in South Africa* [Online]. Rosebank: Board of Healthcare Funders of Southern Africa. Available from:

[http://www.bhfglobal.com/files/bhf/The%20Resilience%20to%20Fraud%20of%20South%20Africa%20Medical%20Schemes%20-%20Final%20\[2\].pdf](http://www.bhfglobal.com/files/bhf/The%20Resilience%20to%20Fraud%20of%20South%20Africa%20Medical%20Schemes%20-%20Final%20[2].pdf)

[Accessed 29 October 2014].

Cameron, S. & Price, D. 2009. *Business research methods: A practical approach*. London: Chartered Personnel and Development, CIPD House.

Chapman, R.J. 2013. *Simple tools and techniques for enterprise risk management*. 2<sup>nd</sup> ed. West Sussex: John Wiley & Sons Ltd.

Childs, B. & Erasmus, D. 2012. *Review of the South African market for hospital cash plan insurance* [online]. Available from: [http://www.finmark.org.za/wp-content/uploads/pubs/HospitalcashPlanInMrktRev\\_124.pdf](http://www.finmark.org.za/wp-content/uploads/pubs/HospitalcashPlanInMrktRev_124.pdf) [Accessed 20 August 2014].

CMS News. 2009/2010. *Relationships in the industry – what all beneficiaries need to know* [Online] Centurion: Council for Medical Schemes. Available from: [http://www.medicalschemes.com/files/CMS%20News/CMSNews3Of2009\\_2010\\_20100419.pdf](http://www.medicalschemes.com/files/CMS%20News/CMSNews3Of2009_2010_20100419.pdf) [Accessed 12 August 2014].

Collis, J. & Hussey, H. 2014. *Business Research: A practical guide for undergraduate and postgraduate students*. 4<sup>th</sup> ed. London: Palgrave.

Committee of Sponsoring Organisations of the Treadway Commission. 2016. *Fraud risk management guide: Executive summary*. [Online]. Available from: <http://www.coso.org/guidance.html> [Accessed 08 November 2016]

Committee of Sponsoring Organizations of the Treadway Commission (COSO). 2015. *Leveraging COSO across the three lines of defence*. [Online]. Available from: <http://www.coso.org/guidance.html> [Accessed 08 November 2016].

Cooper, D.R. & Schindler, P.S. 2014. *Business research methods*. 12<sup>th</sup> ed. New York: McGraw-Hill/Irwin.

Corbin, J. & Strauss, A. 2015. *Basics of qualitative research: Techniques and procedures for developing grounded theory*. 4<sup>th</sup> ed. Thousand Oaks, California: SAGE Publications, Inc.

Council for Medical Schemes. 2008. *Evaluation of Medical Schemes 'cost increases: findings and recommendations* [Online]. Available from: [http://www.medicalschemes.com/files/Research%20Briefs/Report\\_on\\_Cost\\_Inc.pdf](http://www.medicalschemes.com/files/Research%20Briefs/Report_on_Cost_Inc.pdf) [Accessed 30 July 2014].

Council for Medical Schemes. 2012. Guideline for the preparation of a business plan where a medical scheme is not meeting the statutory solvency requirements [Online]. Available from: <http://www.medicalschemes.com/files/Guidelines%20and%20Manuals/GuidelineOfPrepMeetingSolvencyRegRegulation29.pdf> [Accessed 29 July 2014].

Council for Medical Schemes. 2014/2015. *Annual report -2014/2015*. [CD-ROM]. Centurion: Council for Medical Schemes.

Council for Medical Schemes. 2015/2016. *Council for medical schemes annual report - 2015/2016* [Online]. Available from: <https://www.medicalschemes.com/Publications.aspx> [Accessed 09 December 2016].

Creswell, J. W. 2013. *Qualitative inquiry and research design: Choosing among five approaches*. 3<sup>rd</sup> ed. Thousand Oaks, California: SAGE Publications, Inc.

Creswell, J. W. 2014. *Research design: Qualitative, quantitative and mixed methods approach*. 4<sup>th</sup> ed. Thousand Oaks, California: SAGE Publications, Inc.

Dabney, D.A. 2013. *Crime types*. 2<sup>nd</sup> ed. New York: Wolters Kluwer Law & Business.

De Vos, A.S., Strydom, H., Fouché, C.B. & Delport C.L.S. 2011. *Research at grass roots*. 4<sup>th</sup> ed. Pretoria: Van Schaik Publishers.

Debpuur, C. Dalaba, M.A., Chatio, S. Adjuik, M. & Akweongo, P. 2015. 'An exploration of moral hazard behaviors under the national health insurance scheme in Northern Ghana: A qualitative study', *BMC Health Services Research*, 15(469):1-9.

Denzin, N.M. & Lincoln, Y.S. (eds.). 2013. *Strategies of qualitative inquiry*. 4<sup>th</sup> ed. Thousand Oaks, California: SAGE Publications, Inc.

Duckert, G.H. 2011. *Practical enterprise risk management: A business process approach*. New Jersey: John Wiley & Sons, Inc.

Duignan, J. 2014. *Quantitative methods for business research using Microsoft Excel*. Australia: Cengage Learning.

Dul, J. & Hak, T. 2008. *Case study methodology in business research*. 1<sup>st</sup> ed. Oxford: Butterworth-Heinemann.

Econex, 2013. *The South African Private Healthcare Sector: Role and contribution to the economy* [online]. Available from: [http://www.econex.co.za/index.php?option=com\\_content&view=article&id=55:health-economics&catid=35:sectors&Itemid=54](http://www.econex.co.za/index.php?option=com_content&view=article&id=55:health-economics&catid=35:sectors&Itemid=54) [Accessed 18 August 2014].

Engstrom, N.R. 2017. 'Retaliatory RICO and the puzzle of fraudulent claiming', *Michigan Law Review*, 115: 639-706.

Erasmus D., Ranchod, S., Abraham, M., Carvounes, A. & Dreyer, K. 2016. Challenges and opportunities for health finance in South Africa: A supply and regulatory perspective [online]. Available from: <https://www.finmark.org.za/challenges-and-opportunities-for-health-finance-in-south-africa-a-supply-and-regulatory-perspective/> [Accessed 07 December 2016].

Flynn, K. 2016. 'Financial fraud in the private health insurance sector in Australia: perspectives from the industry', *Journal of Financial Crime*, 23(1):143-158.

Furlan, S. & Bajec, M. 2008. 'Holistic approach to fraud management in health insurance', *Journal of Information and Organizational Sciences*, 32(2):99-114.

Gee, J. & Button, M. 2014. *The financial cost of healthcare fraud 2014* [Online]. Available from:  
<https://www.google.co.za/#q=the+financial+cost+of+healthcare+fraud+report+2014> [Accessed 05 December 2016].

Girling, J. 2013. *Operational risk management: A complete guide to a successful operational risk framework*. New Jersey: John Wiley & Sons, Inc.

Gong, J., McAfee, R.P. & Williams, M.A. 2016. 'Fraud cycle', *Journal of Institutional and Theoretical Economics*, 172(3):544-572.

Hair Jr, J.F., Celsi, M.W., Money, A.H., Samouel, P. & Page M.J. 2011. *Essentials of business research methods*. 2<sup>nd</sup> ed. New York: M.E. Sharpe, Inc.

Health Policy Project. 2016. *Health financing profile: South Africa*. [Online]. Available from:  
<https://www.healthpolicyproject.com/index.cfm?id=publications&get=pubID&pubID=7887> [Accessed 03 April 2017].

Imoniana, J.O. & Murcia, F.D. 2016. 'Patterns of similarity of corporate frauds', *The Qualitative Report*, 21(1):143-162.

Joudaki, H. Rashidian, A., Minaei-Bidgoli, B., Mahmoodi, M., Geraili, B., Nasiri, M. & Arab, M. 2015. 'Improving fraud and abuse detection in general physician claims: A data mining study', *International Journal of Health Policy and Management*, 5(3):165-172.

Kumar, R. 2014. *Research methodology: A step-by-step guide for beginners*. 4<sup>th</sup> ed. London: SAGE Publications Ltd.

Laycock, M. 2014. *Risk management at the top: A guide to risk and its governance in financial institutions*. 1<sup>st</sup> ed. West Sussex: John Wiley & Sons Ltd.

Layder, D. 2013. *Doing excellent small-scale research*. London: SAGE Publications Ltd.

Lokanan, M. E. 2015. 'Challenges to the fraud triangle: Questions on its usefulness', *Accounting Forum*, 39(3):201-224.

Macha, J., Harris, B., Garshong, B., Ataguba, J.E., Akazili, J., Kuwawenaruwa, A. & Borghi, J. 2012. 'Factors influencing the burden of health care financing and the distribution of health care benefits in Ghana, Tanzania and South Africa', *Oxford Journals, Health Policy and Planning*, 27:i46–i54.

McDaniel Jr, C & Gates, R. 2013. *Marketing Research Essentials*. 9th ed. United States of America: John Wiley & Sons, Inc.

Morris, L. 2009. 'Combating fraud in health care: An essential component of any cost containment strategy', *Health Affairs*, 28(5):1351-1356.

Myers, M.D. 2013. *Qualitative research in business management*. 2<sup>nd</sup> ed. Washington, D.C: SAGE Publications, Inc.

Nevondwe, L. & Odeku, K.O. 2014. 'Financing the National Health Insurance Scheme of South Africa: Opportunities and challenges', *Journal of Social Science*, 39 (1):9-18.

Norjé, N. & Hoffmann, W. 2014. 'Professional consequence for dentists involved in unethical decision-making in South Africa', *Journal of Forensic Odontostomatology*, 32(Suppl 1):22–29.

Norjé, N. & Hoffmann, W. 2015a. 'Ethical misconduct by registered physiotherapists in South Africa (2007–2013): A mixed methods approach', *South African Journal of Physiotherapy*, 71(1):1-7.

Norjé, N. & Hoffmann, W. 2015b. 'Ethical misconduct by registered psychologists in South Africa during the period 2007–2013', *South African Journal of Psychology*, 45(2):260–270.

Norjé, N. & Hoffmann, W. 2016. 'Seven year overview (2007-2013) of ethical transgressions by registered healthcare professionals in South Africa', *Health SA Gesondheid*, 21:46-53.

Nsiah-Boateng, E., Asenso-Boadi, F., Dsane-Selby, L. Andoh-Adjei, F., Otoo, N. Akweongo, P. & Aikins, M. 2017. 'Reducing medical claims cost to Ghana's National Health Insurance scheme: a cross-sectional comparative assessment of the paper- and electronic-based claims reviews, *BMC Health Services Research*, 17:115.

Office of the Health Ombud. 2017. *The report into the circumstances surrounding the deaths of mentally ill patients: Gauteng province* [Online]. Available from: <http://www.ohsc.org.za/index.php/publications/ohsc-documents> [Accessed 09 March 2017].

Ogunbanjo, G.A. & van Bogaert, D. 2014. 'Ethics in healthcare: healthcare fraud', *South African family practice*, 56(1) (Suppl):S10-S13.

Olakunde, B.O. 2012. Public health care financing in Nigeria: Which way forward? [Online] *Annals of Nigerian Medicine*, 6:4-10. Available from: <http://www.anmjournals.com/text.asp?2012/6/1/4/100199> Accessed 28 January 2014].

Pande, V. & Maas, W. 2013. 'Physician Medicare fraud: characteristics and consequences', *International Journal of Pharmaceuticals and Healthcare Marketing*, 7(1):8-33.

Polonsky, M.J. & Waller, D.S. 2011. *Designing and managing a research project: A business student guide*. 2<sup>nd</sup> ed. Washington, D.C: SAGE Publications, Inc.

Rama, P. & McLeod, H. 2001. *An historical study of trends in medical schemes in South Africa: 1974 to 1999*. [Online] Available from:  
[https://www.commerce.uct.ac.za/Research\\_Units/CARE/Monographs/Monographs/mono01.pdf](https://www.commerce.uct.ac.za/Research_Units/CARE/Monographs/Monographs/mono01.pdf) [Accessed 15 September 2014].

Ramjee, S. & McLeod, H. 2010. *Private sector perspective on national health insurance* [online]. Available from:  
[http://www.healthlink.org.za/uploads/files/sahr10\\_18.pdf](http://www.healthlink.org.za/uploads/files/sahr10_18.pdf) [Accessed 12 August 2014].

Rashidian, A., Joudaki, H. & Vian, T. 2012. 'No Evidence of the Effect of the Interventions to Combat Health Care Fraud and Abuse: A Systematic Review of Literature', *Plos One*, 7(8):1-8.

Reuvid, J. (ed). 2013. *Managing business risk: A practical guide to protecting your business*. 9th ed. London: Kogan Page Limited.

Ritchie, J., Lewis, J., Nicholls, C.M. & Ormston, R. 2014. *Qualitative research practice: A guide for social science students & researchers*. 2<sup>nd</sup> ed. Los Angeles: SAGE.

Ruankaew, T. 2016. 'Beyond the Fraud Diamond', *International Journal of Business Management and Economic Research*, 7(1):474-476.

Rudman, W.J., Eberhardt, J.S., Pierce, W. and Hart-Hester, S. 2009. 'Healthcare fraud and abuse', *Perspectives in Health Information Management*, 6(Fall):1-24.

Rule, P. & John, V. 2011. *Your guide to case study research*. 1<sup>st</sup> ed. Pretoria: Van Schaik Publishers.

Saunders, M. & Tosey, P. 2012/2013. *The layers of research design* [Online]. Available from:

[http://www.academia.edu/4107831/The\\_Layers\\_of\\_Research\\_Design](http://www.academia.edu/4107831/The_Layers_of_Research_Design)

[Accessed 18 March 2015].

Saunders, M., Lewis, P. & Thornhill, A. 2012. *Research methods for business students*. 6<sup>th</sup> ed. Harlow: Pearson Education Limited.

Schuchter, A. & Levi, M. 2016. 'Fraud triangle revisited', *Security Journal*, 29 (2):107-121.

Sekaran, U & Bougie, R. 2013. *Research methods for business*. 6<sup>th</sup> ed. West Sussex: John Wiley & Sons, Ltd.

Soltani, B. 2014. 'The anatomy of corporate fraud: A comparative analysis of high profile American and European corporate scandals', *Journal of Business Ethics*, 120(2):251-274.

South Africa. Department of Health. 1998. *Medical Scheme Act 131 of 1998*. Pretoria: Department of Health.

South African Police Service (SAPS). 2016. *South African Police Service Annual Crime Report 2015/ 2016: Addendum to the SAPS Annual report* [Online]. South African Police Service. Available from:

<https://www.saps.gov.za/services/crimestats.php> [Accessed 07 March 2017].

Thornton, D., Brinkhuis, M., Amrit, C. & Aly, R. 2015. 'Categorizing and describing the types of fraud in healthcare', *Procedia Computer Science*, 64:713-720.



Thornton, D., Mueller, R.M., Schoutsen, P. & van Hillegersberg, J. 2013. 'Predicting healthcare fraud in Medicaid: A multidimensional data model and analysis techniques for fraud detection', *Procedia Technology*, 9: 1252–1264.

University of South Africa. 2014. *Policy on research ethics*. Pretoria: University of South Africa.

Vaismoradi, M., Turunen, H. & Bondas, T. 2013. 'Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study', *Nursing and Health Sciences*, 15:398-405.

Van Capelleveen, G., Poel M., Mueller, R.M., Thornton, D. & Van Hillegersberg, J. 2016. 'Outlier detection in healthcare fraud: A case study in the Medicaid dental domain', *International Journal of Accounting Information Systems*, 21:18–31.

Van den Heever, A. 2012. *Review of competition in the South African health system*. [Online] Available from:  
<http://www.compcom.co.za/assets/Healthcare-Inquiry/Review-of-Competition-in-the-South-African-Health-System.pdf> [Accessed 05 August 2014].

Wakoli, L.W., Orto, A. & Mageto, S. 2014. 'Application of the K-Means clustering algorithm in medical claims fraud/ abuse detection', *International Journal of Application or Innovation in Engineering & Management*, 3(7):142-151.

Weathington, B.L., Cunningham, C.J.L. & Pittenger, D.J. 2012. *Understanding business research*. New Jersey: John Wiley & Sons, Inc.

Wekesa, M.M., Namusonge, G.S. & Makokha, N.M. 2016. 'Determinants of effective fraud management: A survey of domestic tier one commercial banks in Trans Nzoia County, Kenya', *International Journal of Scientific and Research Publications*, 6(10):375-383.

Wiid, J. & Digginess, C. 2013. *Marketing research*. 2nd ed. Cape Town: Juta and Company Ltd.

Wolfe, D.T. & Hermanson, D.R. 2004. 'The fraud diamond: Considering the four elements of fraud', *The CPA Journal*, 74(12):38-42.

World Health Organisation. 2010. *Improving health system efficiency as a means of moving towards universal coverage* [Online]. Geneva: World Health Organisation. Available from:  
<http://www.who.int/healthsystems/topics/financing/healthreport/28UCefficiency.pdf> [Accessed 28 October 2014].

Yin, R. K. 2012. *Applications of case study research*. 3<sup>rd</sup> ed. Washington, D.C: SAGE Publications, Inc.

Young, J. 2014. *Operational risk management*. 2<sup>nd</sup> ed. Pretoria: Van Schaik Publishers.

Young, J. 2015. 'Guiding criteria for operational risk reporting in a corporate environment'. *Corporate Ownership & Control*. 13(1):881-896.

## **APPENDIX A: INTERVIEW SCHEDULE**

1. In your experience, give me examples of fraud activities that are committed against medical schemes?
2. In your opinion, how could sharing of membership cards and benefits by the members of medical schemes with non-scheme members be prevented?
3. Which measures should be put in place to prevent granting authorisations and payment of claims for invalid members?
4. In your opinion, which mechanisms could assist in the prevention of authorisation for services and payment for claims submitted by unlicensed service providers (e.g. unlicensed hospitals, unregistered doctors)?
5. In your opinion, how could the authorisation of excluded benefits be prevented?
6. In your opinion, how could payment of non-medical items (for example; sunglasses, toiletries, money/ ATMs) be prevented?
7. How can payment for duplicate claims be mitigated?
8. In your opinion, which controls/ measures should be put in place to proactively or reactively manage irregular billing of codes, for example; unbundling of codes, code padding (billing for extra codes) and up coding?
9. Which controls should be put in place to mitigate fraud in out of hospital claims, which do not require prior authorisation, submitted by for example, physiotherapists, pharmacies and general practitioners?
10. In your opinion, how could collusion amongst members and services providers to defraud medical schemes be prevented?
11. In your opinion, which measures/ controls should be implemented to identify syndicates aiming to defraud medical schemes?
12. In your opinion, will reporting on fraud on the annual report assist in mitigating fraud?
13. How can the South African medical schemes work together to mitigate fraud risk in claims?

14. In your opinion, how can the medical schemes work together with insurance companies to manage false claims related to hospital cash plan benefits?
15. Do you think medical scheme industry collaborating with the Department of Health, The Justice Department and Council for Medical Schemes could assist in management of fraud in medical schemes? If so, please elaborate.
16. In your opinion, how can the medical schemes mitigate fraud risk in claims that have not been addressed in the above questions?

## APPENDIX B: ETHICAL CLEARANCE



### FINANCE, RISK MANAGEMENT & BANKING RESEARCH ETHICS REVIEW COMMITTEE

17 March 2016

Dear Ms Tsholofelo Legotlo

Ref #: 2016/CEMS/DFRB/003  
Name of applicant: Ms Tsholofelo Legotlo  
Student #: 31336884  
Supervisor: Prof H Mynhardt  
Staff #: 90166388

**Decision: Ethics Approval**

**Name:** Ms Tsholofelo Legotlo , tshololegotlo@gmail.com

**Supervisor:** Prof H Mynhardt, [mynhardt@unisa.ac.za](mailto:mynhardt@unisa.ac.za), 012 429 4927

**Proposal:** Mitigating fraud risk in medical schemes

**Qualification:** Mcom

Thank you for the application for research ethics clearance by the Department of Finance, Risk management and Banking Research Ethics Review Committee for the above mentioned research. Final approval is granted for the duration of the project.

**For full approval:** The application was reviewed in compliance with the Unisa Policy on Research Ethics by the DFRB RERC 15 March 2016.

The proposed research may now commence with the proviso that:

- 1) The researcher/s will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.
- 2) Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study, as well as changes in the methodology, should be communicated in writing to the department of Finance, Risk Management and Banking Ethics Review Committee. An amended application could be requested if there are substantial changes from the existing proposal, especially if those changes affect any of the study-related risks for the research participants.
- 3) The researcher will ensure that the research project adheres to any applicable



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national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study.

Note:

The reference number 2016/CEMS/DFRB/003 should be clearly indicated on all forms of communication [e.g. Webmail, E-mail messages, letters] with the intended research participants, as well as with the [add unit/sub unit name] RERC.

Kind regards,



Prof Ashley Mutezo  
Chairperson: DFRB Research Ethics Review Committee  
0124294595/muteza@unisa.ac.za



Prof Thomas Mogale  
Executive Dean: CEMS

## APPENDIX C: CONSENT TO PARTICIPATE IN THE STUDY

### CONSENT TO PARTICIPATE IN THE STUDY: MITIGATING FRAUD RISK IN SOUTH AFRICAN MEDICAL SCHEMES

I, \_\_\_\_\_, confirm that the person asking my consent to take part in this research has told me about the nature, procedure, potential benefits and anticipated inconvenience of participation.

I have read or had explained to me and understood the study as explained in the information sheet. I have had sufficient opportunity to ask questions and am prepared to participate in the study. I understand that my participation is voluntary and that I am free to withdraw at any time without penalty. I am aware that the findings of this study will be anonymously processed into a research report, journal publications and/or conference proceedings.

I agree to the audio recording of the interview as well as notes taken by the interviewer.

I have received a signed copy of the informed consent agreement.

Full Name of Participant: \_\_\_\_\_

Signature of Participant: \_\_\_\_\_ Date: \_\_\_\_\_

Full Name of Researcher: \_\_\_\_\_

Signature of Researcher: \_\_\_\_\_ Date: \_\_\_\_\_



## APPENDIX D: TRANSCRIPTION CONFIDENTIALITY AGREEMENT



### Transcription Confidentiality Agreement

I, Julia Martinelli, hereby declare that I understand and agree to the following conditions with regards to the transcription of the audio recordings.

1. I understand that the audio recordings are received for the purpose of transcribing records of interviews held with the participants in the study entitled 'Mitigating fraud risk in medical schemes'.
2. I acknowledge that the research project is conducted by Tsholofelo Legotlo of the Department of Finance, Risk Management and Banking, University of South Africa.
3. I understand that the identity of the participants and any individuals/ organisations/ institutions discussed as well as the content of the interviews are confidential and may not be revealed.
4. I undertake to treat all audio recordings as confidential content to which only I will have access. I will keep the audio recordings and any copied material securely.
5. I will return all copies back to the researcher on completion of the transcription.

Full Name of Transcriber: Julia M. Martinelli

Signature of Transcriber: [Signature] Date: 13/07/16

Full Name of Primary Researcher: Tsholofelo Legotlo

Signature of Primary Researcher: [Signature] Date: 13/07/2016



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